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ABSTRACT

Discussions and studies carried out by students enrolled in a year-long economics curriculum seminar are reported. The seminar was organized to study and make recommendations to an economics department about changing the content and teaching of principles of economics courses at a State university. Thirteen students, masters candidates-teaching assistants or senior majors, enrolled in the course. The class activities are chronicled to give an understanding of how the seminar operated and to show how ideas for change developed and progressed during the year. The main body of the report contains eight of the student papers written for the seminar which form a fairly comprehensive study of the principles course. The papers include four empirical investigations of instruction in the principles courses, two analyses of the value and content of principles texts and programmed instruction, and two critiques of the content selection of the principles of economics. The final section reprints general recommendations submitted by students as well as the author's reflections about the recommendations and the course. (Author/KSM)

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THE PRINCIPLES OF ECONOMICS COURSES
AT
SAN JOSE STATE COLLEGE:

A REPORT OF THE
ECONOMICS CURRICULUM SEMINAR
(ECON 196)

Submitted to the
San Jose State College Economics Department
and to the
Joint Council on Economics Education

September 1968

Edited by
Suzanne Wiggins & Shirley Kress

SO 007 548

THE PRINCIPLES OF ECONOMICS COURSES AT SAN JOSE STATE COLLEGE:

A REPORT OF THE ECONOMICS CURRICULUM SEMINAR (ECON 196)

SEMINAR MEMBERS:

Ahern, Carolyn
Ammon, John
Auyang, Roderick
Bailey, William
Foster, William
Gerin, Thomas
Gray, Burton
Kobashi, Isao
McCallum, Mike
Pearce, James
Schaefer, Robert
Scott, Thurlow
Shin, Jai
Smith, Fred
Stack, John
Wada, Richard
Wright, Vincent

Seminar Instructors & Report Editors:

Suzanne Wiggins & Shirley Kress

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INTRODUCTION

***

This is a report of the discussions and studies carried out by students enrolled in a year-long economics curriculum seminar (a special Econ 196 course) at San Jose State College during 1967-68. The seminar was organized to study and make recommendations to the Economics Department about changing the content and teaching of the Principles of Economics Courses (Econ 1A-1B). Thirteen students, masters candidates-teaching assistants or senior majors, enrolled in the course; three of these students dropped out after the first semester and three other students took their place.

The project was financed in part through a grant to the San Jose State College Economics Education Center from the Joint Council on Economics Education. The Joint Council awarded the Center the year grant to carry out this investigation as well as to experiment with the effectiveness, at the college level, of the ECON 12 curriculum, a new high school economics course developed at San Jose State and in Contra Costa County schools. A report of this latter activity will be made separately.

The remainder of this introduction chronicles the seminar activities from September, 1967 to June, 1968 to give the reader some understanding of how the seminar operated, but also to show how ideas for change developed and changed during the year.

The main body of the report includes eight of the student papers written during the year, chosen because they fit together into a fairly comprehensive study of the principles course. The papers include four empirical investigations of instruction in the principles courses at San Jose State, two analyses of the value and content of principles texts and programmed instruction and two papers critiquing the content selection of the principles of economics (and in the economics discipline). Unfortunately, three other papers, which would have been important additions to the series, were unavailable at the time of publication. These included papers by Richard Wada and Evan Foster on content selection and teaching strategy and a review of the literature on innovative principles courses by Bill Bailey.

The final section of this report reprints general recommendations submitted by three students at the end of the year; it also includes my reflections about the students' recommendations and about the course.

We hope that our readers find a variety and an abundance of useful information, but even more important, we hope this report sparks debate and action within the department.

The First Semester

The seminar was an experiment in two ways. First, the objective was to complete a useful job for the Department, so that seminar members had to become product oriented; they had to learn things which would permit them to complete the study. Secondly, the course was organized as an inquiry seminar where students were responsible for creating and carrying out the study. As the instructor I tried to set up conditions which would encourage or require them to start to inquire on their own about the nature of teaching and learning in the principles course--to organize scientific investigations of their own choosing and design. This meant abdication of the usual instructor functions of structuring and organizing seminar activities and grading students. After announcing the original course purpose and answering questions about it (most of which tested me to find out what I wanted from them), I imposed as little structure as possible. There was no course green sheet or bibliography; there were no examinations and no required assignments; the group as a whole decided to let me determine grades after they failed to come up with a solution and I decided on A's, B's or incompletes.

I did provide what I considered to be some necessary focus and organizing ideas through a series of initial assignments. For instance, students were asked to draw from their own experience to write a short critique of the principles course. In another such paper they were asked to write about the nature of economics and these statements were the basis for class discussion. Also, early in the course I assigned students Jerry Bruner's Process of Education and asked them to write a page discussing the ideas presented by Bruner which seemed most useful in designing an economics principles course. About two weeks after the beginning of the course I lectured on J. Richard Suchman's learning-thinking model, a cybernetic system model of the learning process which provided students with a common vocabulary and system for talking about thinking. (This model will be described in one of the papers.) In addition I brought books to class on the nature of economics and on educational theory and suggested that they all look over the books on reserve for the course in the library.

For most of the first semester the seminar class was devoted to student discussion and arguments, interviews with members of the faculty and infrequent, impromptu lectures by me on educational theory. The discussions were mainly about course content, for the seminar members' first concerns about course adequacy centered around the nature of what was taught--the relevance of the subject matter to students enrolled in the course. The students, all of them, were convinced that the courses are weak and that the fault lay with the choice of subject matter. This led studenrs in various directions. Fred Smith started analyzing content and content organization of the available principles texts. John Ammon, Jai Shin and Vince Wright started interviewing faculty members about their ideas for changes in content and emphasis. Richard Wada, Isao Kobashi and John Stock decided to devise a student attitude questionnaire.

The seminar discussions, debates and probes into the nature of economics, while often exciting, even mind blowing, caused many of us a good deal of anxiety and frustration. However, several seminar members began to offer interesting ideas, and in some cases these ideas grew into articulate programs for revamping the principles course. Tim Gray and Carolyn Ahern make their statements in papers included in this series. The ideas developed by Richard Wada and Evan Foster were also important contributions and since their papers are not included here, I will summarize their class presentations below.

In addition, several seminar members--Isao Kobashi, Mike McCallum, Jai Shin and Vince Wright--played with organizing the principles course around the theme of economic development and wrote papers suggesting ideas or strategies for developing such a course. For the sake of brevity I will not summarize their work; however, their efforts and interests are noteworthy. Finally, Fred Smith wrote two interesting papers summarizing ideas he found in the literature on ologipoly theory which might prove more useful than the usual, inadequate treatment of this market form in the typical IB course.

Richard Wada's Suggested Course Organization. Early in the first semester Rich talked about the relation between science and ideology in economics. Evidently, this was an interest stemming from his doctrines course and readings of Joan Robinson. Recognizing that historically even economists have been involved in both the scientific and philosophic aspects of economics, his hunch was that economics could be made more relevant to students if the course related the science of economics to economic philosophy. Students should study the formation of societal goals, seeing how they relate to differing conceptions of the nature of man. They should then study the extent to which the economy of a particular society functions to achieve the goals stated in the country's political rhetoric.

By the end of the semester Rich had developed these ideas into a suggested course organization. Following Boulding's suggestion (in Principles of Economic Policy, Prentice-Hall, 1958), Wada asserted that the "principles of economics" are embedded in the normative goals which society constructs. These normative goals provide a link between the social system and economics because the function of the science of economics is to achieve the goals laid out by society.

Given this point of view about the discipline, the course goal should be to combine normative and positive economics to help students develop a personal economic value system by permitting them to integrate the science of economics with economic philosophy (ideology).

Economics as a science studies how a society organizes to use scarce resources to satisfy human wants. The science deals with economic organization and decision making in different societies. It studies how so that it can predict. An economic philosophy or ideology defines an ideal value system or set of goals which society should be organized to achieve. The ideology usually includes prescriptions about the ideal form of economic organization--one which will produce these goals. It also critiques existing societies or opposing ideologies, using it's own value system as a basis of analysis.

Thus, course "emphasis should be on *why* we as a nation or as individuals pursue certain economic goals as well as *how* we pursue them."

Wada suggested the following course organization:

1. Discuss philosophy and science (economics in particular) to make clear their interrelations and their distinctions.
   a. what science is, its value and limitations
   b. the use of philosophy in determining our goals--the concept of a personal philosophy
   c. the similarity of analytic techniques used in philosophic reasoning and scientific reasoning--they both build and analyze models.
2. Discuss the system of values that American Society promotes: freedom, justice, progress, stability
   a. alternative policies and goals
   b. study alternative economic systems with emphasis on differences in value systems; identify the stated goals and compare performance with goals
3. Instruct students in economics methodology
   a. use of mathematical analysis in economics--formulas, identities, graphs, etc.
   b. tools of theoretical analysis
   c. developing and testing hypotheses--functional relations, statistical testing, etc.
   d. measurement in economics--estimating aggregates, etc.
4. Describe the U.S. economy, using tools of economic science. Exactly what is included could be left up to the discretion of the instructor, but the content should be realistic and contemporary.
5. Reexamine the goals in section 2 in relation to what students now know about the operation of the U.S. economy. Students should test the consistency of ends with means. To what extent does the American Economic system operate in accordance with the goals of our political rhetoric?
   a. study contemporary performance of our economy in achieving our goals
   b. extend analysis or predictions to the future

Rich's final thinking about course organization appears in the final conclusions section of this report.

Evan Foster on Economics and the Principles Course. Evan's solution to creating a relevant economics course was to relate economics to the broad view of life and the universe--to find the relation between economics and time, space and energy--to show the importance of economics in the big picture. He claimed that the economics principles seem irrelevant to students because the perspective given in the course is not macro enough. Economics, as currently taught, does not describe temporal or spacial differences in economic organization and it does not show how economic organization is part of the whole of human existence. Thus, because the structure of economics is too specific it becomes useless information for the student--the principles don't fit into what students already know or want to know.

Evan argued that because there is a basic similarity among all things, we need to try to apply one structure of knowledge to all things. In particular, we should try to use a more generally valid conceptual structure in economics. Evan summarized his arguments this way:

> "there is a basic similarity among all things
>
> all have a common origin because in the ultimate analysis everything is made up of atomic energy, i.e. matter and/or energy comprise the totality of man's world
>
> matter and energy combine to form systems
>
> every system is made up of smaller systems and every system is part of a larger system
>
> the system is in a state of dynamic equilibrium: as long as any part within the system is changing, nothing else remains static (permanent, perpetual)
>
> it is impossible to change part without also changing the whole
>
> as long as change exists anywhere within the system the various sub-systems will be changing, each growing only at the expense of others in the system, each system evolves on its own ecological pathway toward its eventual perpetuation or extinction
>
> with the above organizers we can now define Economics as: the study of the ecological perpetuation of humanoids."

From an ecological point of view, the success of any form of social organization depends on the extent to which there is a mutual advantage between the organized structure of society and the individuals in the society. Social systems are in a constant state of change, caused by changes in subsystems and the resulting changes in mutual advantage.

Regarding the principles course, Evan made recommendations about the course which could be introduced at the time that the school adopts the quarter system. He suggested a first quarter introductory course preceding the IA and IB sequence to make students conscious of the large scope of economics. The course should be student oriented, it should provide an overview which is immediately useful to students and at the same time build in them an appreciation of the discipline. Students should see the applicability of the economics frame of reference to life in general and to social problems of the present and future--crowded cities, automation, population, adjustment to leisure.

The course should get students to look at the future, to plan for it and to gain a knowledge base of organizers which will be useful in it. This means getting down to the underlying logic of economics. We should be training people to acquire skills to solve the problems of the future--to maximize human satisfaction. Already, and even more so in the future, we need problem solvers, not rote learners. We should be training systems designers, social systems designers. Economists are better equipped to move into this field than other social scientiets because we already have the organizers which can be adapted and expanded to do systems analysis. Thus, the course should give the big picture of economic planning and then should get students involved in learning how. Hopefully, such a course would interest bright students in becoming economists.

The Second Semester

The second semester saw the seminar members settle down to completing a fairly comprehensive study of the principles course. We spent a few weeks at the beginning of the semester hearing progress reports and trying to develop a IA-IB course organization which would satisfy the group. This latter project failed and the seminar members turned to work on their own projects. Shirley Kress joined us as an added staff member to help supervise student research and writing. We met once a week as a group to discuss any problems encountered by a member of the group, but regular classes were not held until the last three weeks of class when seminar members presented their final papers to the seminar. The final assignment was a short paper recommending changes in the principles course.

STUDENT REPORTS

A SURVEY OF FACULTY ATTITUDES AND PRACTICES RELATED TO TEACHING THE "PRINCIPLES" COURSE AT SAN JOSE STATE COLLEGE

By
John Ammon
Jai Shin
Vincent Wright

I INTRODUCTION

The purpose of this study is to analyze the opinions and attitudes of San Jose State College economics professors on the subject matter and course organization of economic principles courses at San Jose State College. This study was originally undertaken because we felt that both faculty members and students are dissatisfied with the current organization of these courses. We developed an interview schedule and a separate questionnaire around a series of questions designed to identify the major problems and possible ways of improving the effectiveness of the IA and IB courses.

The results of this study should assist ECON 196 curriculum classes in the development of a new economic principles course, which will be more directly related to real economic issues and will thereby be more challenging and interesting to both students and faculty members.

We would like to express our appreciation to those faculty members who helped to make this report possible.

II PROCEDURES

We interviewed seventeen of the nineteen professors who teach economics IA and IB.

1. K. Blacker[illegible]y
2. O. Broyles
3. D. Garnel
4. E. Inwood
5. C. Gallagher
6. S. Kress
7. W. Johnson
8. M. Lee
9. T. Mings
10. J. O'Connor
11. J. Roche
12. M. Primack
13. M. Snowbarger
14. A. Solganick
15. S. Stoner
16. S. Van Atta
17. S. Wiggins

We asked each of these professors the same questions and then classified their answers on the basis of majority and minority opinions. These questions were as follows:

1. Do you think the present subject matter of the principles courses are well structured to teach? If not, please explain why.
2. Do you favor redesigning the economic principles course? If so, how?
3. Do you think the economic theory presented in the course is relevant?
4. Can you tell us why economics is not attractive to college students?
5. What do you think students should learn from an economics principles course?
6. Which textbook is most suitable for an economics IA and IB course?
7. What other assignments besides text reading do you give? Do you give any outside writing assignments to students?
8. Should we have different types of courses for different types of students? (i.e. major and nonmajor)
9. How do you feel about programmed instruction? Have you had any experience with programmed instruction?

10. What is your view concerning exams and grades? What types of exams do you give? (i.e. true-false, multiple choice, etc.) How often do you give these exams? Why do you give these exams?

11. May we have an outline of your course, mid-terms you present to your class and a copy of your final exams?

The interviews themselves ran from thirty minutes to one and one-half hours in length, with the exception of two professors. The interviews of these two professors were interrupted because they had to give lectures. This, along with other problems (specifically the problem of scheduling interviews) presented a certain amount of difficulty which had to be worked out by the three interviewers. In reference to the first problem, the solution was found by continuing the interview of the professor at a later date.

The interviews were conducted by John Ammon, Jai Shin and Vincent Wright. In some cases, all three of us interviewed a professor; in other cases only one or two of us conducted the interview. We recorded the professors responses by taking notes as accurately as possible. Following the interview, we compared notes to check each other's accuracy. We then listed each professor's main points.

The summary of these interviews revealed the need for more information and we followed up the interviews with a questionnaire which each professor in the department was asked to complete. (See Section V for a copy of that questionnaire.) The purpose of this set of questions was to get complete information on some questions and to probe some of the previous responses of professors in greater detail. Results of the questionnaires were compared with the earlier interview responses. Some of the answers contained in the questionnaires conflicted with the replies of the interviews.

The remainder of the report is organized in the following way. The next two sections summarize the interviews, namely, the first six questions and question ten. Responses to the other questions are not given because most faculty members did not answer them. The primary reason for this was the limitation of time. The final three sections summarize the responses to questions contained in the questionnaire and compare the interview and questionnaire responses.

III SUMMARY OF MAJOR FINDINGS FROM THE INTERVIEWS

Our analysis of the responses by economics professors when questioned about the organization of economic principles courses as they are generally taught today revealed basic trends of thought which should prove useful in the design and development of a new economic principles course.

Five important ideas tended to manifest themselves repeatedly and a brief summary of each is presented below.

1. We found that most of the professors interviewed emphatically stressed the idea of the need to improve economic principles courses. However, at the same time, we found them unable to give us complete answers about how to organize a new course. Many of these professors reported experimenting by simply rearranging the material. That is, each professor tends to introduce that material which he feels is important and deemphasizes the material which he feels less important; in addition, they tend to alternate the order in which they introduce that material from one semester to the next.

We must emphasize that we found only two out of seventeen professors who expressed the idea of developing "neutral scientific models" which would enable the students to analyze any economic system and draw his own conclusions. What we did find was the tendency, whether conscious or unconscious, of the professors to guide his or her students according to a certain economic ideology along a certain path of analysis. This is tantamount to indoctrinating the students either along bourgeoisie (neoclassical) lines of thinking, or revolutionary (Marxist) lines of thinking, primarily the former.

2. We discovered prevailing lines of thought on how the economic principles course should be presented to the students. We found that most professors teach the course as a technical introduction to economic analysis. This approach involves the presentation of mathematical economic theory. The students of Dr. Wiggins' 196 class feel that perhaps this is one of the major problems of economics as it is taught today. Many professors also expressed this opinion. We have found all too often that students feel economics is too mathematical, too technical. The result is that the student is at a loss to explain how economics relates to reality.

The second method of presentation is the institutional approach. The institutional approach involves a study of corporation and government roles in our society and the economic effect of these two factors on different segments of our society as well as other societies. We found that a majority of professors favor the integration of more institutionalism into the IA and IB economic principle courses. Our experience is that students favor this approach over the technical approach because they can relate the subject matter of economics to the real world. This approach permits an analysis of issues and problems and hence seems relevant from the student's point of view.

3. Fifty per cent of the economics faculty feel changes in course organization and/or emphasis are not as important as changes in teaching techniques. One professor stated, "Teaching techniques are at fault." This professor said, "Very few principles teachers are good teachers" and, "They don't know how to get (their) material across." We were amazed that eight of the economics professors interviewed expressed this opinion about their fellow colleagues.[1]

We also discovered that only four economics professors have had experience in the use of programmed instruction material. Perhaps a further analysis of this method of teaching by the economics faculty will offer some solution to the problem of developing new teaching techniques.

4. Most of the professors interviewed expressed the opinion that economics is not attractive to college students. Two explanations were offered for this student attitude: (1) Economics is technical and mathematical in character. The students are required to think in highly analytical terms. Thus, the subject matter is very difficult to comprehend, with the result that the majority of students taking IA and IB courses find it too complex. (2) The second explanation stressed that, "The student who continues in economics must face the realization that a B.A. Degree in economics will be of little help in finding a job."

5. Our fifth major conclusion is that all economics professors agreed that the course should prepare students to apply the tools of economics in effectively analyzing the causes and effects of current social problems and issues and to develop possible alternative solutions for such problems. However, faculty members generally agreed that the traditional principles courses do not teach this.

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[1] Perhaps a practical solution to this problem lies in training economics professors in formal educational methods.

On the other hand, many professors argued, possibly in defense of thier own position, that the quality of students entering economics is not up to par.

IV. INTERVIEW RESPONSES TO QUESTIONS ON THE CONTENT AND VALUE OF PRINCIPLES COURSES

The opinions expressed by faculty members' varied widely, reflecting independent courses of action by each professor within the department. The questions presented to the professors and the answers to these questions are summarized below.

Summary of Responses to Questions 1 and 2

1. Do you think the present subject matter of the economic principles course is well structured to teach? If not, please explain why.
2. Do you favor redesigning the economic principles course? If so, how?

We combined the answers to these two questions because they refer to the same general subject and, thus, are related and because professors often answered both questions in response to the first one.

Majority Opinion. Eleven out of seventeen or 65% of the respondents shared the opinion that economics principles courses are not well structured. These instructors think there is an urgent need for improvement. The summary below describes the faculty members' analyses of the problems involved and suggestions for improvement and revision.

Nine of the eleven professors felt that there should be more integration of institutional analysis (role of corporations, government, etc.) into the IA and IB courses. Here are some of the comments:

> --"Most American economics textbooks teach that there immutable principles which persist through time. Hence, economics is taught in the form of the capitalist system. This is wrong. There is nothing wrong with teaching the principles of capitalism, but rather we should try to introduce the student to all economic systems.". . . "The capitalist economic system is treated as if it came out of nowhere.". . ."We should ask, how was it that it came about and why." He elaborated on this question by saying that the courses today, "inadequately describe how the system works. . . they do not know where the sources of power are. . . they do not deal with the main classes in society and how output is distributed." As a consequence, economics fails to, "deal with the problems and issues. Economics should deal with racism, poverty and the causes of poverty. It also should deal with imperialism."
>
> --"I would structure the introduction of economic theory from the institutional point of view, i.e. according to what is going on in society.". . . "Traditional theory is in chaos because the theory does not analyze institutional factors such as government roles and

the behavior of large corporations. Traditional economics does not handle the theory of poverty, which might be the most important contemporary question."

--"I prefer more institutional analysis. Restricting yourself to model building does not interest the student."

Two out of eleven professors opposed integrating institutional study with economic theory. They prefer a technical rather than an institutional approach.

--"I would minimize the factual and institutional atructure. I would minimize national income accounting and leave out discussions of labor unions."

--"There is a lot to be said for the studying of the functioning of various institutional factors. People want to know what is going on now. This is wrong."

--"Before you treat economics as a social science, you should know the tools of analysis."

Minority Opinion. Three professors felt that nothing was wrong with the structured material of an economics principles course. However, eight out of seventeen or 47% of the professors interviewed expressed the opinion that the method of presentation is the key problem.

One professor felt that the reason for faulty teaching techniques here at San Jose State is because,

--"Those who teach IA feel that it is beneath them". . ."because this is the prevailing attitude in the graduate schools attended by the faculty, and because professors want to talk on the level of their peers." This professor suggested that the above problem might be corrected by offering, "some kind of reward to the principles course intructors and smaller classes."

Although the students in Dr. Wiggins' class feel that most professors who teach economics have a difficult time getting their subject matter across, possibly because of lack of formal training in educational methods, many professors argued that the quality of the students in the economics courses creates the problem. Many feel that students should have some type of economics background before they enter a IA or IB economic principles course. One comment in reference to this argument was,

--"the real problem is to get qualified students who will participate and who will compete."

One other comment was,

--"students are not autonomous thinkers. . . they have brains, but do not use them."

Important Supplementary Opinions. One professor stated,

--"business is the basis of our culture, and since it is business that produces the wealth, economics should be presented within the realm of the business field."

However, two professors disagreed with this view and one stated,

--"economics should not be taught as a part of the business field."

These two professors felt that too much emphasis is placed on using economic analysis to help businesses make more profit and not enough emphasis is placed on studying man's social relationships.

The responses to these two questions reveal that all professors present economics IA or IB according to their own interests and ideals. One professor expressed this by saying,

--"the course should be organized according to the dictates of the professor."

The result is that some professors use an historical approach, some a comparative systems approach, some a cultural or social approach. Most teach a theoretical or mathematical principles course along traditional lines. Almost all professors eventually concentrate on teaching the principles of economics theory as they interpret these principles.

Summary of Responses to Question 3

Do you think the present economic theory presented in these courses is relevant?

Seventeen or 100% of the professors interviewed expressed the opinion that economic theory is relevant in the sense that it is, "internally consistent." (i.e. economic models are logical descriptions of markets or of a particular system.) Five of these professors agreed with this statement,

--"the pure competitive theory can be utilized as a criteria for measuring actual economic performance."

One professor's comments were,

--"I teach the perfectly competitive model so as to enable students to understand the imperfect model. Pure competition does not exist, but I discuss it in order to compare it with what does exist, imperfect competition."

Another professor said,

--"Relevancy exists. . . in so far as pure theory is used. . . as a means to measure relative performance of real markets."

All professors stressed the idea that although the theory is relevant in the sense of being internally consistent, too much emphasis is placed on pure competition and not enough time is spent on oligopoly and monopoly. The theory, purely competitive, for the most part, doesn't describe reality.

From another point of view, one professor stated,
--"there is too much emphasis on the technical analysis of capitalism and not enough emphasis on the cultural analysis of capitalism."

Another professor felt that,
--"the theory is supposed to reflect reality, but it is unrecognizable. . . everything is controversial. . . how can you prove everything!"

He also said,
--"economics is for problem solving. . . if you don't get into social problems, what good is it!"

One professor remarked,
--"the students should gain some concept and understanding of the nature of our society. Traditional courses don't teach this. Economics should be problem oriented."

Another professor commented,
--"economics should deal with theory but the theory should be utilized to explain how the system works. . . it should deal with the problems and issues. . . then we should deal with policy. (i.e., how to solve these problems.)"

One professor thought,
--"More attention should be paid to oligopoly. Students should see the reality of imperfect competition."

Summary of Responses to Question 4

Can you tell us why economics is not attractive to college students?

Majority Opinion. Ten out of seventeen or 60% of the professors interviewed explained student attitudes as a response to the highly technical and mathematical character of economics as presently practiced and taught. The students are not geared toward or capable of thinking in such highly analytic terms. Consequently, the student feels that the theory is highly abstract and of no relevance. Hence, the subject matter is very difficult to comprehend, with the result that the majority of students taking a IA or IB course fail to continue in economics.

These comments are typical:
--"economics is too technical. . . it is too abstract. . . some majors don't have the ability to stand the rigors of the course."

--"People come into this field with a social science interest, but soon find that economics consists of mathematics for which they are not prepared."

--"Economics is too difficult. . . it is hard for students to think analytically. . . students don't stay long enough to understand the relevance of the theory."

> --"Economics is too difficult because of the emphasis on mathematics and statistics. . . why, even 60% of the professors can not read the professional journals of their discipline."

Minority Opinion. Seven out of seventeen or 40% of the professors interviewed felt that economics principles course is not too technical and mathematical for most students' interests and abilities. Five out of seventeen or 30% suggested that a partial solution to the claim that the course is too technical might be found in offering a two-course system. The principles course could then be designed and offered to fit the particular needs of both majors and nonmajors. One professor stated,

> --"there should probably be a two-track system in the principles course. . . one for majors and one for nonmajors. An alternative would be to let majors go straight to the intermediate theory courses."

Important Supplementary Opinions. Nine out of seventeen professors or 53% felt that an economics IA or IB course is usually a cram course, an attempt to teach the whole of economics in one year. This is ridiculous and obviously discourages the students. The following comments reflect this point of view:

> --"the whole of economics is taught in one year."
>
> --"I would like to explore more outside reading material, but there is not enough time to become involved in this type of reading. . . we just have too much to cover or at least, we try to cover too much."
>
> --"We need more time spent on theory, time for preparation. . . there is too much theory and not enough time is spent on problems."
>
> --"The material in Samuelson's book is too difficult to cover in a one-year course."
>
> --"This time problem might be alleviated by giving students a proper introduction to theory through programmed instruction."

He suggested that Bingham's programmed introduction to economic theory should be used because,

> --"it is easily understood by students."

He also suggested that,

> --"most classroom work accompanying programmed instruction should possibly follow an institutional approach rather than a technical approach."

One response to question four was,

> --"it takes an effort to learn concepts. . . too much emphasis is placed on everything else. . . nobody gives a damn about the students' reasoning. . . we are the victims of conformity. . . the people who are capable of thinking usually get sick of this and become revolutionaries."

One professor expressed the viewpoint that,

> --"the student who continues in economics must face the realization that a B.A. Degree in economics will be of little help in finding a job as an economist."

The student must earn a Master's Degree before he can find any suitable employment and even then, the pay scale for the expended education effort involved is more than likely to be mediocre as compared to that of an engineer, scientist, mathematician, etc.

Summary of Responses to Question 5

What do you think students should learn from an economics principles course?

One hundred per cent of the professors interviewed expressed the view that students should be able to apply the tools of economics in effectively analyzing the causes and effects of current social problems and issues, and be able to develop possible alternative solutions for such problems. All of this should give the student a better insight into the nature of the society in which he lives and enable him to formulate and demand effective policy in solving these problems. Faculty members generally agreed that traditional economics principles courses do not accomplish this goal. It is not as problem oriented as it should be.

Here is a sampling of faculty comments:

--"students should be able to think about economic problems in a rational manner. . . incorporating certain economic tools to accomplish this."

--"Students should gain a comprehensive understanding of the economic issues of our time. . . an understanding of the tools assists in the analysis of these issues."

--"Students should be able to understand monetary and fiscal policy in order to be able to read and understand the economic implications of news stories about economic policy."

--"Students should be able to grasp the handle on how the economy operates, the factors which govern this society, and the role that government plays."

--"The students should develop a concept and understanding of the nature of this society. Traditional courses don't teach this. Economics should be problem oriented."

Summary of responses to Question 6

Which textbook is most suitable for an economics IA and IB course? Would you recommend any particular book for either course?

Thirteen of the seventeen professors interviewed indicated that the required textbooks adequately present the desired material.

But one professor criticized textbooks as,

--"a complete waste of time. . . none of them relate facts with specific contextual problems. . . the subject materials must not just be theory and models. . . it must provide a context for students to work in."

Another professor remarked,

--"Samuelson's text is too rigorous for the introductory course . . . much of this material should be presented in appendix form rather than in the body of the text. . . this book is good for upper division students or premajors."

But another stated that,

--"Samuelson is not too bad."

It is interesting to note that fifteen of the seventeen professors do require additional paperbacks for the course.

Summary of responses to question 10

What is your view concerning exams and grades? What types of exams do you give? (i.e. true-false, multiple choice, etc.) How often do you give these exams? Why do you give these exams?

Thirteen out of seventeen professors feel that most exams merely test the student's ability to memorize and not his ability to solve problems. Consequently, almost every professor we interviewed is striving to develop examinations which will test the student's ability to apply the tools of economics to problem solving. The results thus far have been disappointing in many cases, however.

One view was,

--"exams don't test anything but the abilities of the student to memorize. . . students are not in college to learn. . . this is because there is no common bond among the members of this society . . . everyone is out to make profits. . . life in the United States is meaningless."

One professor suggested the idea of frequent tests. He thought there should be,

--"regular and frequent pressure on the student so his study time is used efficiently." This would, "provide instantaneous feedback to the student."

V THE FACULTY QUESTIONNAIRE

Analysis of the recorded results of our interviews with the principles course faculty revealed the need for additional information. Accordingly, we designed a questionnaire which was sent to each economics professor. Fifteen of twenty professors who received the questionnaire replied, but five either failed to answer or were unable to answer certain questions. All respondents, however, answered most of the questions. A copy of the questionnaire follows.

ECON 196
Mrs. Wiggins
Fall, 1967

QUESTIONNAIRE ON THE INSTRUCTION OF THE PRINCIPLES OF ECONOMICS COURSE AT SAN JOSE STATE COLLEGE

This questionnaire is a follow-up to the recent interviews we conducted with faculty members in the Economics Department. We are now trying to fill in the details of current teaching practices in the department and we would appreciate your cooperation in completing this questionnaire.

Please use the enclosed campus mail envelope to return the completed questionnaire to the Economics Education Center. Try to return the completed form by Friday, January 5. To help us keep track of responses, please put your name in the space provided below.

Thank you in advance for your help. The information you have already provided us, as well as this completed questionnaire, will be kept in strict confidence. However, we will summarize all of this information in a report to the department which should be available by the beginning of the spring semester.

John Ammon
Jai Shin
Vincent Wright

Date ______________________ Name ______________________

TEACHING MATERIALS

1. Required Textbooks

List the titles and authors of the required textbooks you are using this semester for ECON 1A/1B. (Circle which courses you are currently teaching. If you are teaching both courses, please complete a form for both courses.

Author Title

1. ______________ ______________________ paperback/hardback (circle one)

2. ______________ ______________________ paperback/hardback (circle one)

3. ______________ ______________________ paperback/hardback (circle one)

4. ______________ ______________________ paperback/hardback (circle one)

2. Supplementary Reading Assignments

	Authors or Editors	Title	
1.	____________	____________	paperback/hardback (circle one)
2.	____________	____________	paperback/hardback (circle one)
3.	____________	____________	paperback/hardback (circle one)
4.	____________	____________	paperback/hardback

3. Workbooks

____________ ____________ required/optional
(circle one)

4. Programmed Instruction

____________ ____________ required/optional
(circle one)

EXAMINATIONS

5. Please describe the examinations (midterms and finals) you are using this semester.

_____ Number of midterms - per semester
(#)

Check the type of examination questions used:

_____ true-false

_____ multiple choice

_____ short answer

_____ essay (in class, closed book)

_____ essay (in class, open book)

_____ take home

_____ combination of above (in the space provided above also indicate the per cent of your exams which are usually made up of that type of question)

6. Please describe other quizzes or assignments used for grading students:

_____ Number of quizzes - per semester

Describe type of questions:

_____ Number of written assignments - per semester

7. Check what purposes these examinations, quizzes, and written assignments serve.

_____ grading

_____ to make sure students complete reading

_____ to make sure students are able to work out assigned problems or theoretical questions

_____ as a learning device

_____ other (specify)

GRADING

8. Please check the following statements which describe accurately your current grading system in ECON IA/IB.

_____ I grade on a curve.

_____ Except for unusual classes, I give a certain number of D's and F's.

_____ If students obtain specified levels of performance, they earn a given grade, regardless of a class curve.

_____ I grade strictly on the basis of test performance.

9. If not already described on your green sheet, describe briefly the method you use in arriving at the final course grade. (Describe relative weight of final versus other grades. Are grades earned later in the semester weighted more heavily than grades earned at the beginning of the semester?)

10. Check the following statements which accurately describe your current opinion about what role grades should play in ECON IA/IB.

_____ Grades are necessary to evaluate student performance

_____ Grades are a necessary motivation for students

_____ Grades should be downgraded in importance, perhaps to a pass or a fail system

_____ Grades should be used as a reward or punishment

_____ Frequent grading during the semester is necessary to inform students of their knowledge of subject material

PROGRAMMED INSTRUCTION

11. List the characteristics of programmed instruction which differentiate it from instruction centered around lectures, text reading and the use of workbook or other problems.

a. ____

b. ____

c. ____

d. ____

12. List the advantages and disadvantages of programmed instruction

Advantages	Disadvantages

13. I do/do not (circle one) favor using programmed instruction as a required/optional assignment for ECON IA/IB.

CHANGES IN THE ECON IA/IB SEQUENCE

The interviews revealed your interest in improving the principles courses and some interesting suggestions for change. We would like to get your reactions to some frequently voiced objections and analyses of problems in teaching these introductory courses. For each of the following criticisms, state whether you agree, disagree or are undecided about the truth of the statement. Please comment on these statements.

1.	agree/disagree/ no comment	Students are inadequately prepared.
2.	agree/disagree/ no comment	The course is too technical and, perhaps, too mathematical for most students' interests and abilities.
3.	agree/disagree/ no comment	There is too much emphasis on theory which is inadequately related to what we know about the institutional characteristics of the United States economy.
4.	agree/disagree/ no comment	There is too much emphasis on theory in the sense that students spend most of their time learning it and do not spend enough time learning how it applies or how to apply it to important policy questions.
5.	agree/disagree/ no comment	There is too much emphasis on the technical analysis of capitalism.
6.	agree/disagree/ no comment	There is no study of the evolution and long-run development of American Capitalism and the relations between the United States and other economies.
7.	agree/disagree/ no comment	Changes in course organization and/or emphasis are not as important as changes in teaching techniques.

VI SUMMARY OF RESPONSES TO THE FACULTY QUESTIONNAIRE

This section contains a summary of the individual responses to the faculty questionnaire. Some of these responses conflict with the responses we recorded for those individual faculty members during the interviews. This would seem to indicate a certain amount of indecision among the economics faculty about what should constitute the subject matter, methodological approach, and course organization of Economics IA and IB sequence.

Required Textbooks

Tables I and 2 list the required texts used in IA and IB classes during the fall semester, 1967. (Note faculty reliance on Samuelson and frequent use of paperbacks.)

Table I
Textbooks Used in ECON IA, Fall, 1967

Author	Title	Number of Prof. Using Book	Hardback or Paperback
Samuelson, P.A.	Economics: An Introductory Analysis	9	hardback
Mc Connell, C.R.	Economics: Principles, Problems and Policies	3	"
Keiser	Economics: Analysis: and Policy	2	"
Stoner	Economics	I	"
Schultz, C.L.	National Income Analysis	3	paperback
Heilbroner, R.L.	Understanding of Macro-Economics	3	"
Wiggins & Sperling	ECON I2	2	"
Kolko	Wealth and Power in America	3	"
Samuelson, Coleman, & Skimore	Readings in Economics	3	"
Galbraith, J.K.	Affluent Society	I	"
Friedman, M.	Capitalism and Freedom	I	"
Snider	Economic Myths and Reality	I	"
U.S. Government Printing Office	Economic Report of The President, 1967	3	"

Table 2
Textbooks Used in ECON IB, Fall, 1967

Author	Title	Number of Prof. Using Book	Hardback or Paperback
Samuelson	Economics, An Introduction	3	hardback
Samuelson, Coleman, and Skimore	Readings in Economics	2	paperback
Mc Connell	Economics, Principles, Problems and Policy	1	hardback
Watson	Price Theory in Action	1	paperback
Ward	The Rich Nations and Poor Nations	1	"
Kolko	Wealth and Power in America	1	"
Heilbroner	Limits of American Capitalism	1	"
Raillett and Daulson	Introduction to Micro-Economics	1	"
Myrdal	Rich Land and Poor Land	1	"
Allen	Essential Mathematics for Price Theory	1	"
Domhoff	Who Rules America	1	"
U.S. Government Printing Office	Economic Report of The President, 1967	1	"

Supplementary Materials

Only two of the fifteen professors who replied said that they assigned supplementary reading. These reading materials are indicated in Table 3. However, ten professors listed paperbacks as required reading, indicating a general desire for outside reading as a supplement to the text.

Three of the fifteen professors who returned questionnaires, said they used a workbook, and five reported using programmed instruction. These are listed in Tables 4 and 5.

Table 3
Supplementary Reading Assignments, Fall, 1967

Authors or Editors	Title	Paperback or Hardback
Watson, D.S.	Price Theory in Action	paperback
Heilbroner, R.	The Making of a Economic Society	"
Wall Street Journal	daily articles	newspaper
Schultze, C.	National Income Analysis	paperback

Table 4
Workbook Used in Economics IA-IB Course, Fall, 1967

Author	Title	Number of Professors
Robinson	Study Guide to Accompany Samuelson	2
Bingham	Workbook to Accompany Mc Connell	1

Table 5
Optional Programmed Instruction Material Assigned, Fall, 1967

Author	Title	Number of Professors
Attiyeh	Macroeconomics: A Programmed Book	2
Mc Connell	Economics: A Programmed Approach	1
Wiggins and Sperling	ECON 12	2*

* These two professors also assigned Attiyeh, A Program Book: Macroeconomics.

Examinations

Professors were requested to indicate the number of mid-terms given their students during the fall semester of 1967. A summary of their responses is presented in Table 6.

One professor gave 13 mid-terms. He reported that in his judgment the application of constant pressure on students forced the efficient use of their time. Further, he commented that this technique provided constant feedback to students thus enabling them to better evaluate their positions. Final examinations are not counted in this summary.

Table 6
Number of IA Mid-term Examinations Each Professor Gave, Fall, 1967

Number of Midterms (per semester)	Number of Professors
13	1
4	2
3	4
2	5
1	6

One question asked faculty members to classify their examinations according to the predominant type of question asked and a summary of responses is presented in Table 7. Most professors gave either multiple choice or essay examinations.

Table 7
Types of Examinations in Economics IA-IB, Fall, 1967

Type of Examination	Number of Professors who Used This Type of Exam
True-false	5
Multiple choice	12
Short answer	5
Combination of above	6
Essay (in class, closed book)	12
Essay (in class, open book)	1
Take home	1

Quizzes and Written Assignments

Tables 8 and 9 summarize the number of quizzes and written assignments each professor gave. Most gave no quizzes and fourteen gave no written assignments.

Table 8
Number of Quizzes and Written Assignments, Fall, 67

Number of Quizzes (per semester)	Number of Professors
5	1
3	1
4	1
2	3
1	1
0	13

Table 9
Number of Written Assignments, Fall, 67

Number of Written Assign. (per semester)	Number of Professors
4	1
3	2
2	3
0	14

Current Grading Practices and Role of Grades

Tables 10 and 11 show an enumeration of current grading practices by faculty members in the ECON IA-IB sequence.

Table 10
Grading Practices Employed by Economics Prof., Fall, 67

Method of Grading	Number of Professors
I grade on a curve.	5
Except for unusual classes, I give a certain number of D's and F's.	1
If students obtain specified levels of performance, they earn a given grade, regardless of a class curve.	7
I grade strictly on the basis of test performance.	7

Table 11
Assigned Percentage Weight of Each Mid-term, Quiz and Final in Arriving at Final Course Grade, Fall, 67

Midterm (weight %)	Number of Professors	Quizzes (weight %)	Number of Professors	Final (weight %)	Number of Professors
60% (2x30%)	1	20%	1	40%	4
50% "	3	-	-	50%	3
40% "	1	-	-	60%	1
33% "	1	33%	1	33%	1
30% "	1	30%	1	-	-

Some of the professors did not give us specific data on this question, nor did their green sheets offer a clear description of their policies. However, some did comment as follows:

> --"Quality and quantity of class participation can raise or lower a grade (when) near the border line."
>
> --"I don't punish students for not knowing something in the middle of the semester that they may know at the end, and, to a lesser degree, vice-versa. I don't grade mechanically, but rather by intuition."

> "The number of tests and their relative weights are determined by the students themselves. This semester two classes voted for two mid-terms and a final, all to count equally. One other class voted for three mid-terms and a final, all to count equally."

Grading

Table 12 sets forth a summary of the responding professors' views concerning the role of grades in the principles course. Fourteen of the fifteen professors felt grades were necessary to evaluate student performance. Ten of the fifteen professors also replied that frequent grading during the semester was necessary to inform students of their knowledge of subject material. Seven of the fifteen professors stated that grades were necessary to motivate students.

Table 12
Professors Opinions Concerning the Role that Grades Should Play in ECON IA-IB, Fall, 67

Statement	Number of Professors who agree with this statement
Grades are necessary to evaluate student performance.	14
Grades are a necessary motivation for students.	7
Grades should be downgraded in importance, perhaps to a pass or a fail system.	4
Grades should be used as a reward or punishment.	2
Frequent grading during the semester is necessary to inform students of their knowledge of subject material.	10

Programmed Instruction

Table 13 contains an enumeration of professors' opinions on programmed instruction. Most professors do not use programmed instruction as a method of teaching and eleven of the fifteen professors who responded to the questionnaire said they had not experienced the usage of programmed instruction.

Instructors were asked to comment in the advantages and disadvantages of programmed instruction. Under advantages they mentioned:

--"Saves time."

--"May be helpful for students in assisting them to check their progress."

--"It assures thorough coverage of theory for every student even though a lecture might be missed."

--"Students can work at a pace which is comfortable for them."

--"When all students have about the same comprehension of theory, it gives them the confidence necessary to inspire good class discussion."

--"It is a good way to provide careful instruction and at the same time promote good practice habits among the students."

They cited such disadvantages as these:

--"It would be dividing the subject into too many small chunks."

--"Rote learning."

--"May be tedious for the very good students who can get the material from the text and lectures."

--"It can be repetitious and dull."

--"It can not be used to teach everything."

--"I am doubtful if programmed instruction could be adapted to economics."

--"It's fragmentary with highly fallible items."

--"Too much emphasis is placed on technical items."

Table 13
Opinions of Professors on Programmed Instruction
for Teaching Economics Theory, Fall, 67

Comment	Number of Professors
Like it and presently use it.	2
Like it, but presently don't use it.	1
Do favor using it as an option, but do not use it presently.	3
Don't know about the programmed instruction and presently don't use it.	11

Changes in the ECON 1A-1B sequence

Analysis of responses to interview questions revealed some opinions about the content of the basic course and some attitudes about the typical principles student that seemed to be widely held by professors. These generalizations were of considerable interest, so a questionnaire was prepared and circulated in order to determine with the best possible precision, the extent of faculty agreement with each of these positions.

In this section we summarize these responses. Professors were asked if they agreed or disagreed with seven statements, or had no comment. They were asked to write additional comments. Some of these comments are listed below after each statement.*

	AGREE	DISAGREE	NO COMMENT
1. Students are inadequately prepared.	A, D, G, N, O	C, E, F, I, J, L	B, H, K, M

D - --"Students are inadequately prepared for the traditional theoretical approach to Economics 1A/1B. This doesn't mean they are not prepared to learn economics."

I - --"You must assist them when they enter the course. For a person to agree to this (question) is to deny his own work."

G - --"They need an institutional course first."

A - --"We should give qualifying examinations first."

---

* Each letter represents an individual professor, thus, the pattern of his responses to the series of statements can be traced.

2. The course is too technical and, perhaps, too mathematical for most student's interests and abilities.

AGREE	DISAGREE	NO COMMENT
D, G, H, K, N	A, B, C, E, F, I, J, L, M, O	

G - --"I agree, the beginning course should be historical, institutional and cultural."

B - --"It easily can be, and good instructors reduce the automatic peril response rather than embellish the manifestation of it."

N - --"Too technical in the sense of being abstract. The concepts are not rooted in historical fact."

K - --"There should probably be a two-track system in the principles course. . . one for pre-majors. An alternative would be to let majors go straight to the intermediate theory courses."

3. There is too much emphasis on theory which is inadequately related to what we know about the institutional characteristics of the U.S. Economy.

AGREE	DISAGREE	NO COMMENT
D, G, H, J, K, N, M, O	B, C, F, I, L	A, E

K - --"Students should realize the free enterprise is not all competitive."

N - --"Pure competition has nothing to do with actual monopoly capitalism."

4. There is too much emphasis on theory in the sense that students spend most of their time learning it and do not spend enough time learning how it applies or how to apply it to important policy questions.

AGREE	DISAGREE	NO COMMENT
A, D, E, H, J, K, M, N, O	B, F, G, I	C, L

K - --"In addition, I feel the application to policy problems provides an incentive to the understanding of theory. I am not sure in fact which comes first."

5. There is too much emphasis on the analysis of capitalism.

AGREE	DISAGREE	NO COMMENT
G	C, F, I, K, L, M, N, O	A, B, D, E, H, J

B - --"The analysis is often misdirected or prejudged with the idea that, 'Capitalism is dead and it is only relevant to history.'"

K - --"I would disagree that there is too much emphasis on the cultural analysis of capitalism."

VII A COMPARISON OF QUESTIONNAIRE AND INTERVIEW RESPONSES

The interviews results and the questionnaire responses did not seem to confirm each other in every case, so we undertook the development of a technique for comparison of these results. Table 14 shows a comparison of our characterization of each professors' response to the interview and to the questionnaire. This analysis revealed that many professors were undecided about what should constitute the focus of the principles course. Further, they could not agree on the teaching strategies to be employed.

Table 14

ATTITUDES ABOUT COURSE ORIENTATION

Comparison of Interview and Questionnaire Responses

Each Letter Symbolizes a Specific Prof.	Interview	Questionnaire
F	Institutional	Technical
A	Institutional	Technical
Q	Technical and Institutional	No Comment
D	----	Institutional
L	Technical and Institutional	Technical
B	Technical	Technical
K	Technical and Institutional	Technical and Institutional
R	Historical and Technical	No Comment
S	Institutional	No Comment
N	Historical and Institutional	Historical and Institutional
P	Institutional	No Comment
O	Technical and Institutional	Technical and Institutional
I	Technical	Technical
G	Historical and Institutional	Historical and Institutional
T	Institutional	No Comment
E	Technical	Technical
H	Institutional and Technical	Institutional and Technical

Three of the seventeen professors contradicted themselves when asked whether Economics IA-IB should emphasize the technical or the institutional approach. Six would not express their views in written form. These facts alone lead us to question the extent and quality of faculty efforts to correct the shortcomings of the basic course which they were so ready to describe to us in the interviews. In the last analysis, one of the main impediments to improving Econ. IA-IB may well be the inertia of the economics faculty.

AN ANALYSIS OF ECONOMICS IA FINAL EXAMINATIONS

By
James Pierce
Rodney Auyang
Robert Schaefer

I INTRODUCTION

This study of Economics IA final examinations was undertaken to determine the general performance required of students on completion of the one-semester course. We originally intended to study both IA and IB final examinations, but due to difficulties encountered in obtaining copies of IB tests, we decided to restrict the study to the IA course.

We received IA final examinations from twelve of the fifteen professors who have taught the course at San Jose State College within the past two semesters. Of the remaining three professors, one was not on campus during the spring semester and two did not have copies of their examinations available. However, from our personal knowledge of the testing habits of these three professors, we do not believe that any one of them tests in such a different manner as to significantly alter the results of the study.

In the interest of objectivity, each professor is referred to in the study by a number, not necessarily corresponding to numbers used in other studies completed for the economics curriculum seminar. The examinations were analyzed with respect to subject matter and cognitive skill requirements. Each question on each test was individually rated by uniform procedures outlined in the text of this study. The numerical ratings for the several professors who submitted more than one of their IA final examinations are an average of the results on the individual tests. We hope the results will be valuable to the Economics Department faculty members in attempting to judge the extent to which they judge student performance in accordance with the objectives of their courses.

We would like to thank the professors who submitted tests for our use and who assisted us in our interpretations.

II SUBJECT AREA ANALYSIS

PROCEDURE

Each question on each of the IA final examinations submitted was classified into one or more of the subject area catagories listed below.

1. Basic Concepts (other than specific economic concepts)
2. History of Economic Thought and Systems
3. Resource Scarcity and Allocation
4. Production Theory (specialization and returns to scale)
5. Elementary Demand and Supply Analysis
6. Money - Quality and Value
7. Money - Quantity Theory
8. Forms of Competition (monopolistic competition, oligopoly, etc.)
9. Consumption Function (MPS, MPC, Multiplier)
10. Savings and Investment
11. Circular Flow Model and General Equilibrium Analysis
12. National Income Accounts (structure only)
13. Government Restriction and Regulation
14. Fiscal Policy
15. Monetary Policy and Commercial Banking
16. Economic Fluctuations (business cycles, price level)
17. Business Organization and Finance
18. Labor Economics
19. International Economics - Trade Theory
20. Economic Growth and Development
21. Economic Data
22. Current Economic Literature
23. Current Economic Problems (describe)
24. Other (describe)

These subject areas were constructed by establishing a separate category for any subject which recurred frequently during analysis of several of the larger multiple-choice type examinations. We then subjected all of the examinations to the resulting list including a category 'Other (describe.)' The problems encountered with the categories, mostly that of redundancy, were then eliminated as much as possible by redefinition of the categories, and any subject which appeared often in the 'Other' category was added to the original list. This procedure was repeated until we encountered no difficulty in clearly fitting all questions into one or more subject area categories.

For each of the examinations we used the following procedure to determine the percentage of the test devoted to each subject area:

A. Determine the point worth of each question as follows:

   1. If it was stated on the examination or is a reasonable assumption that each of the questions on the examination is weighted equally in grading the test, then for our rating each question is worth one point.

   2. If it was stated on the examination that certain types of questions are each worth a certain number of points, then each question was weighted with the number of points stated on the examination.

   3. If it was stated on the examination that certain sections are worth certain percentages of the test, for our weight each question will be worth $\frac{100.P}{N}$ points where P is the stated percentage credit for the section in which the question is contained and N is the number of questions in that section.

B. Determine the number of points to be awarded to each subject area category for each question as follows:

   1. If the question tests in only one of the subject area categories listed, that category was given the point worth of the question.

   2. If the question tests more than one of the subject area categories listed, each of the categories tested by the question was awarded $\frac{P}{N}$ points where P is the point worth of the question and N is the number of subject areas tested by the question.

C. Derive the percentage of the test devoted to each subject area by dividing the total points given to each subject area by the total points contained in the test.

We felt that an essay question which counted as a major part of the examination and dealt with a few subject areas would alter the results of the rating to such a degree as to distort the emphasis on the objective portion. In order to permit the analysis of objective sections apart from the essay sections, the procedure described above was applied to each test in total, and where the test included both essay and objective questions, each portion was rated as if it were a separate test.

RESULTS[1]

Table I below summarizes the content analysis. It lists the top ten subject area categories used by the faculty ranked in the order of their percentage score on the total test analysis for all the tests analyzed. The table also shows percent of objective questions and percent of essay questions devoted to each category. All other categories scored less than 5.0% in all three areas.

Table I
Percentage of all Tests Devoted to the Top Ten Subject Areas

	Subject Area Description	% of Total Tests Devoted to Categories	% Objective Tests or Sections Devoted to Category	% Essay Tests or Sections Devoted to Category
11.	Circular Flow Model & General Equil. Analysis	15.5%	18.3%	5.1%
15.	Monetary Policy & Commercial Banking	14.8	15.2	25.4
14.	Fiscal Policy	10.2	9.1	21.1
9.	Consumption Function	5.8	8.0	1.2
23.	Current Econ. Problems	5.8	2.0	9.9
10.	Savings and Investment	5.5	5.2	3.1
16.	Economic Fluctuations (Business Cycles-Price Level)	4.9	4.9	6.0
4.	Production Theory	4.5	3.2	5.5
2.	History of Econ. Thought & Systems	4.3	2.7	5.3
12.	National Income Accts. (Structure Only)	3.9	4.5	1.4

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[1] Derived from complete data in Appendix I

CONCLUSIONS

Approximately 70 percent of the final examination emphasis was concentrated in the areas described in the general course description given in the San Jose State College *Bulletin*, 1967 - 68.[1] The remaining 30 percent was divided fairly equally among many other general areas of Economics.

Approximately 40 percent of the emphasis was concentrated in the areas of general equilibrium analysis, circular flow, monetary policy and fiscal policy, areas which require general knowledge of many other basic economic and non-economic concepts.

These results show that the professors, in general, are requiring knowledge concentrated in the subject areas given as the course objectives and, in addition, require general knowledge in other areas of Economics.

III. COGNITIVE SKILL ANALYSIS

PROCEDURE

Each question on each of the IA final examinations submitted was placed in one of the cognitive skill areas listed below.

1.1 Knowledge of Specifics

1.3 Knowledge of Universals and Abstractions

2.0 Comprehension

3.0 Application

4.0 Analysis

5.0 Synthesis

6.0 Evaluation

This taxonomy of cognitive skills, including a much more detailed breakdown, was developed by Benjamin S. Bloom in the *Taxonomy of Educational Objectives*.[2] Although Bloom's taxonomy breaks down each of the above categories to indicate sub-areas of cognitive skills, we felt that an attempt to use these sub-areas in our study would unnecessarily complicate the study and require a degree of interpretation inconsistent with our skills and time. We did break down the '1.0' category into two sub-areas because the distinction between knowledge of specifics and of universals could be made with with little difficulty and we felt that this distinction might prove interesting in analyzing test questions.

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[1] "IA, Macroeconomics: Theory of the determination of the level of output. The behavior of prices; monetary theory and institutions. Government stabilization policies. Economic Growth."

[2] Bloom, Benjamin S., *Taxonomy of Educational Objectives*; Handbook I, Cognitive Domain; Longmans, Green and Co., N.Y., 1956.

For the benefit of those readers not familiar with Bloom's taxonomy, the following explanations of the categories are taken from the book.[1]

1.0 Knowledge-

Knowledge, as defined here, involves the recall of specifics and universals, the recall of methods and processes, or the recall of a pattern, structure or setting. For measurement purposes, the recall situation involves little more than bringing to mind the appropriate material. Although some alteration of the material may be required, this is a relatively minor part of the task; the knowledge objectives emphasize most the psychological processes of remembering.

1.1 Knowledge of Specifics-

The recall of specific and isolable bits of information.

1.3 Knowledge of Universals and Abstractions in a Field-

Knowledge of the major schemes and patterns by which phenomena and ideas are organized. These are the large structures, theories, and generalizations which dominate a subject field or which are quite generally used in studying phenomena or solving problems.

2.0 Comprehension-

This represents the lowest level of understanding. It refers to a type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications.

3.0 Application-

The use of abstractions in particular and concrete situations. The abstractions may be in the form of general ideas, rules of procedures, or generalized methods. The abstractions may also be technical principles, ideas, and theories which must be remembered and applied.

4.0 Analysis-

The breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between the ideas expressed are made explicit. Such analysis are intended to clarify the communication, to indicate how the communication is organized, and the way in which it manages to convey its effects, as well as its basis and arrangement.

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[1] Ibid. pages 62-187. For sample questions in each area, see Appendix III.

5.0 Synthesis-

The putting together of elements and parts so as to form a whole. This involves the process of working with pieces, parts, elements, etc., and arranging and combining them in such a way as to constitute a pattern or structure not clearly there before.

6.0 Evaluation-

Judgements about the value of material and methods for given purposes. Quantitative and qualitative judgements about the extent to which material and methods satisfy criteria. Use of a standard of appraisal. The criteria may be those determined by the student of those which are given to him.

In contrast to the subject area analysis which we found quite easy to work with after arriving at the final list of categories, the cognitive skill analysis proved difficult and laden with problems of interpretation. We would like to briefly describe the more important problems encountered in order to give the reader a feel for the distinctions made in using the categories. Hopefully, this will answer the more obvious questions dealing with our methods of rating the questions.

Objective questions (multiple choice and true-false) were fairly easy to rate. The only major problem arising in rating these questions was deciding whether the exact information had already been given in the classroom or text assignments. In this case, and assuming that the material is easy to remember, then the question simply requires the student to recall information and therefore would have to be placed in a knowledge category. On the other hand, if an essential part of the information given or requested in the question was new to the student the question would involve a cognitive process more difficult than mere recall and most likely would belong in the comprehension category. For example, consider the following question:

America is losing gold abroad. This means that the Fed must be cautious about:

a. raising interest rates.

b. lowering interest rates.

c. raising the legal reserve requirements of the member banks.

d. selling bonds through open market operations.

e. none of the above.

The above question would be a 1.1 question if the correct answer had been given in class; then the students are being tested on their memory. On the other hand, if the answer had not been given in class, then the students would have to reason out the answer and the question should be rated as 2.0.

We attempted to be consistent by ruling that if there existed a large number of possible examples from which the professor chose a few to represent a situation, then the particular situation was probably new to the student and should be rated as 2.0. Another example is the question:

Which of the following is not considered to be investment?

a. the piling up of inventories on a grocer's shelf

b. the purchase of 100 shares of AT&T by a retired businessman

c. the building of a nursery school

d. construction of a steel factory

e. the purchase of a drill press by the Ajax Manufacturing Co.

f. construction of a suburban housing project

If the examples given comprised the major part of the possible examples in the given situation, then there existed a good possibility that the material could be easily memorized and the question should be rated as 1.1 or 1.2.

In an other example in the area of mathematical problem solving, the possibility existed that the student might have memorized the correct answer if the exact problem had been given in class, e.g. the question:

If the multiplier is 3, the marginal propensity to consume is equal to

(a) 1/3, (b) 3, (c) 2/3, (d) 1/2, (e) 30.

We chose to ignore this possibility and assumed that in all cases the student was required to remember a process or formula and apply it to the given data. The questions of this nature were rated as 3.0.

Essay questions gave us the greatest difficulty, and to some extent the difficulties are unresolved. The following statement from Bloom's taxonomy should illustrate the problem.

> "We recognize the difficulty of classifying essay questions. The tendency is to place them in the syntheses category. For example, if the student writes out his comprehension or analysis or a reading selection, does such a form of response constitute synthesis as we have defined it? If his essay involves analysis in terms of underlying elements and the like, perhaps not, since he has not come out with a product substantially different from that which he is studying. If we accept this point of view, then

we would not regard every act of writing as an act of synthesis. We would assume that writing as such is primarily a skill in expression, much of which represents the remembering of ideas, the interpretation of given materials, and the translation of ideas into writing."[1]

The mere fact that a student is required to write out a response instead of placing a mark in an appropriate box does not necessarily mean he is performing a more difficult cognitive task. Since we considered our judgement in this area to be only slightly short of guessing, where an essay question did not merely ask for the restating of material, we consulted the professor who gave the test question to determine the nature of the response expected.

In the process of these consultations we encountered an additional problem. The possibility exists that a professor may ask a question in which he expects the students to perform an analysis, synthesis, or judgement. The student response, however, may be entirely one of comprehension. In this event, we decided to rate the question in the expectation category on the basis that the objective of this study is to analyze professors' expectations and not the probable conglomeration of student response. This area would, however, be an interesting one for further study.

The procedure for calculating the percentage of each examination that tested in each cognitive skill area was that outlined previously for the subject area analysis.

RESULTS

Table 2 summarizes the analysis of cognitive skill testing required of students in the examinations analyzed. More complete information for each faculty member is given in Appendix I.

Table 2

Percent of all Tests Devoted to Each Cognitive Skill Area with Breakdowns for Objective and Essay Questions

Cognitive Skill Area	% of Total Tests Devoted to Each Area	% of Objective Questions devoted to each area	% of Essay Questions devoted to each area
1.1 - Knowledge of Specifics	30.7	41.6	10.1
1.3 - Knowledge of Universals	22.2	14.8	36.0
2.0-- Comprehension	26.6	28.5	25.6
3.0 - Application	12.7	15.6	5.9
4.0 - Analysis	0.0	0.0	0.0
5.0 - Synthesis	5.8	0.0	9.6
6.0 - Evaluation	1.9	0.0	12.5

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[1] Bloom, Op.Cit., p. 162.

CONCLUSIONS

Approximately 53 percent of the final examination emphasis was on the students' "psychological processes of remembering," 1.1 and 1.3--knowledge of specifics or of universals. An additional 29 percent involved comprehension (2.0) which Bloom describes as "making use of material without necessarily relating it to other material or seeing its fullest implications." Thirteen percent of the emphasis was on application (3.0), but most of this was on mathematical problem solving by the use of formulae which students might have been able to respond to from memory. Thus, approximately 94 percent of the test emphasis was on cognitive processes which could not be considered to be of a high order.

Although this is more apparent in the analysis of objective questions, it is surprising that the results of the essay portions also show a concentration of emphasis in the lower skill areas.

The Economics Department does not state objectives describing expected general student performance levels of cognitive skills or of ability in economic analysis upon completion of the IA course. Therefore, we can draw no conclusions regarding the relation of our analysis to general objectives of the IA course of study.

IV AUTHORS' COMMENTS

The natural extension of this study would be a comparison of our results with the results of other studies done by the curriculum seminar, particularly the study of faculty attitudes and practices by Ammon, Shin, and Wright. As we have not seen their final results or discussed the study with them at length we will not comment further at this time.

In addition to the other studies made by the members of the curriculum seminar, we would like to bring the work by Benjamin S. Bloom, which was cited previously, to the attention of the Economics Department faculty. We feel it is an invaluable aid in test analysis and construction.

Professor #
Objective
Essay Only
Total Test

Table I

Summary Tabulation of Content Analysis for Each Faculty Member with Separate Analyses for Objective & Essay Sections of the Examinations

Subject Area Number[1]

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	O																								
1	E		7	10	7			7			4	14	3	7	10	7	7	13			4			3	
	T		7	10	7			7			4	14	3	7	10	7	7	13			4			3	
	O	1		1	7	6	1	1		13	4	21	6	4	6	7	3			4	9			1	1
2	E														25	25					25			25	
	T	1		1	5	4	1	1		9	3	15	4	3	12	13	2			3	14			9	1
	O	1	8	1				3		3	3	36	4	1	13	19						3		5	
3	E																								
	T	1	8					3		3	3	36	4	1	13	19						3		5	
	O	3	5	1	2	8	1	1	1	5	6	11	2	1	2	28	9		1	2	1	1		1	11
4	E																								
	T	3	5	1	2	8	1	1	1	5	6	11	2	1	2	28	9		1	2	1	1		1	11
	O	1		4	8		7	4		5	10	22	5		5	7	9			1		3			8
5	E																								
	T	1		4	8		7	4		5	10	22	5		5	7	9			1		3			8
	O	7	3	4	3	4	3	3		10		12			16	18	4		3	1	1	1		1	1
6	E	11	11		11										56	11									
	T	8	5	3	5	3	2	2		8		9			29	16	3		2	1	1	1		1	1
	O																								
7	E		17		11				11		6	6	6		6	6	6							28	
	T		17		11				11		6	6	6		6	6	6							28	
	O		2	2	6	14				18	4	20	6	2	8	10	4							4	
8	E														50	50									
	T		2	2	5	11				14	3	16	5	2	18	19	3							3	
	O	5	1		3	1	1	1		5		2		8	15	11	5			26	1	1		3	9
9	E																								
	T	6	1		3	1	1	1		5	1	2		8	15	11	5			26	1	1		3	9
	O		3							12	18	33	18	3	6		3							3	
10	E																								
	T		3							12	18	33	18	3	6		3							3	
	O		2							1	2	7			8	37	7	2	4	4	14	4			8
11	E															70	30								
	T		2							1	2	6			6	43	12	2	3	3	11	3			6
	O																								
12	E	3	2		3				2		11	16				8		2	4		4		17	14	5
	T	3	2		3				2		11	16				8		2	4		4		17	14	5
Avg	O	2.1	2.7	1.3	3.2	3.7	1.5	1.5		8.0	5.2	18.3	4.5	2.1	9.1	15.2	4.9	0.3	0.9	4.3	2.9	1.5		2.0	4.3
Avg	E	2.1	5.3	1.4	5.3			1.0	1.9	1.2	3.1	5.1	1.4	1.0	21.1	25.4	6.0	2.1	0.5		4.8		2.4	9.9	0.7
Avg	T	1.9	4.3	1.3	4.5	2.7	1.0	1.6	1.1	5.8	5.5	15.5	3.9	2.1	10.2	14.8	4.9	1.4	0.8	3.2	3.0	1.1	1.4	5.8	3.4

1

Table 2

Summary Tabulation of Cognitive Skill Level of Examinations for Each Professor

	COGNITIVE SKILL LEVEL						
	1.1	1.3	2.0	3.0	4.0	5.0	6.0
0							
1 E	30	33	30	7			
T	30	33	30	7			
0	14	34	25	27			
2 E		100					
T	9	56	17	18			
0	38	18	32	12			
3 E							
T	38	18	32	12			
0	63	11	23	3			
4 E							
T	63	11	23	3			
0	48	3	21	17			
5 E		2					
T	37	2	21	17			100
0	47		33	20			23
6 E	44	11					
T	46	3	24	15		45	
0						12	
7 E		33		33			
T		33		33		33	
0	37	33	20	10		33	
8 E			100				
T	28	25	39	8			
0	53	1	46				
9 E							
T	53	1	46				
0	21	12	39	27			
10 E							
T	21	12	39	27			
0	45	21	28	6			
11 E		68	32				
T	36	30	29	5			
0							
12 E	7	43	43	7			
T	7	43	43	7			
Aug 0	40.6	14.8	29.6	13.6			
Aug E	10.1	36.0	25.6	5.9		9.6	12.5
Aug T	30.7	22.2	28.6	12.7		3.8	1.9

APPENDIX II

Sample questions taken from Bloom's taxonomy to illustrate types of questions belonging in different cognitive skill areas.

1.1 Knowledge of Specifics

About what proportion of the population of the United States is living on farms?

a. 10% b. 20% c. 35% d. 50% e. 60%

1.2 Knowledge of Universals and Abstractions

Which of the following statements of the relationship between market price and normal price is true?

a. Over a short period of time, market price tends to equal normal price.

b. Over a long period of time, market price tends to equal normal price.

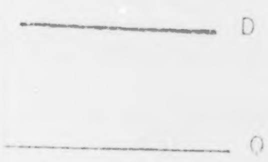
c. Market price is usually lower than normal price.

d. Over a long period of time, market price determines normal price.

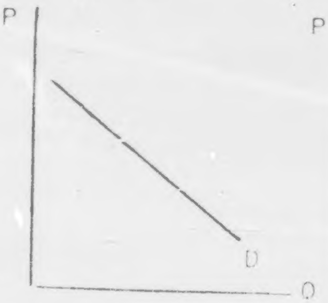
2.0 Comprehension

Which of the following graphs best represents the demand schedule of a typical commodity under competitive conditions?

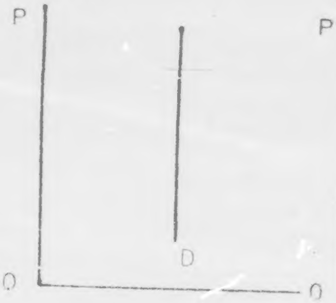
a.



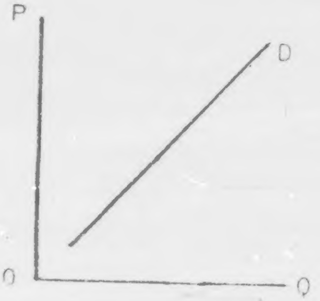
b.



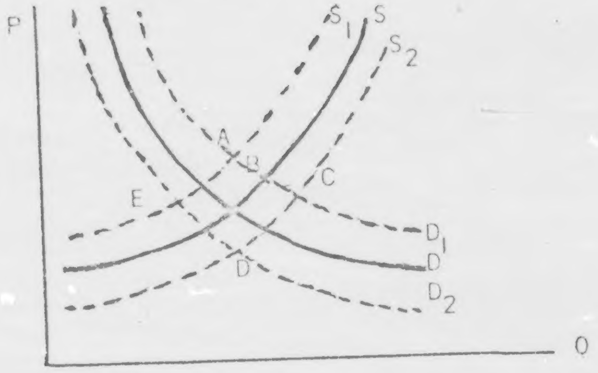
c.



d.



3.0 Application



In the diagram above the unbroken lines represent the original supply and demand condition for each of the products listed below. For each product a change of conditions is specified which may cause a shift in either or both of the original curves, such that the new point of intersection is at A, B, C, D, or E.

After the answer sheet number which preceeds each product, blacken the letter space which designates the point of intersection of the curves which apply to the new conditions.

Product	New Conditions
1. Automobiles	New union agreements have practically eliminated labor grievances. Those who most urgently wanted new cars have been supplied.
2.	
3.	

4.0 Analysis

Statement of facts: The following table represents the relationship between the yearly income of certain families and the medical attention they receive:

Family Income	% of Family Members who Received No Medical Attention During the Year
Under $1,200	47
$1,200 to $3,000	40
$3,000 to $5,000	33
$5,000 to $10,000	24
Over $10,000	14

CONCLUSION

Members of families with small incomes are healthier than members of families with large incomes.

Which one of the following assumptions would be necessary to justify the conclusion?

a. Wealthy families had more money to spend for medical Care.

b. All members of families who needed medical attention received it.

c. Many members of families with low incomes were not able to pay their doctor bills.

d. Members of families with low incomes often did not receive medical attention.

5.0 Synthesis

Write a unified paper on some restricted aspects of the question of the future of private property in America. The paper may be either an argument in support of some form of ownership which you favor, or an attack upon some form which you oppose, or both. It must, however, observe the following stipulations:

It must include a discussion of the moral bases and social effects...

It must relate your thesis to the arguments pro and con...

It must show some application of your theoretical position...

In form your paper must be an argument...

6.0 Judgement

Essay I

"The idea of liberty........................
............................regulation of competitive business enterprise."

A. Defend or attack the truth of the proposition above. In doing this, take into consideration specific conditions in the areas of economic and political life in America from the Civil War to the Present.

B. Defend or attack the truth of the proposition. In doing this, make clear (i) what meaning you are giving to "liberty" and "regulation" (ii) the precise position you are taking in regard to such problems as distribution of income, monopoly, the effectiveness of a free market to regulate our economy, and the possibilities of planning.

Content Analysis
Econ IA Final Exam

Instructor ____________________

Total No. of Questions ____________________

	TOPIC	TOTAL	%
	Basic Concepts (Other than spec, econ.)	1.9	
9	History of Thought & Systems	4.3	
	Resource Scarcity & Allocation	1.8	
8	Production Theory (Spec & Returns to Scale)	4.5	
	Elem. Demand & Supply Analysis	2.7	
	Money - Quality/Value	1.0	
	Money - Quantity Theory	1.6	
	Forms of Competition	1.1	
4	Consumption Function (MPC, MPS, Mult)	5.8	
6	Savings & Investment	5.5	
1	Circular Flow Model & Gen. Equil. (Interaction, Mult, Accelerator)	15.5	
10	National Income Accts. (structure only)	3.9	
	Gov't Restriction & Regulation	2.1	
3	Fiscal Policy	10.2	
2	Monetary Policy & Commercial Banking	14.8	
7	Econ Fluctuations (Infl. Bus. Cycles, Price level)	4.9	
	Business Organization & Finance	1.4	
	Labor Econ	0.8	
	International Econ - Trade	3.2	
	Econ. Growth & Development	3.0	
	Current Econ. Data	1.1	
	Current Econ. Literature	1.4	
5	Current Econ Problems (Specify): ____________	5.8	
	Other (Specify): ____________	3.4	

PRINCIPLES OF ECONOMICS:
STUDENT POPULATION DESCRIPTION AND STUDENT ATTITUDES

By
Richard Wada
Isao Kobashi

I OBJECTIVES AND JUSTIFICATION

The need for this student questionnaire arose from discussions engaged in at the beginning of the economics curriculum seminar project (September 1967). During these discussions students criticized much of the contents of economics in the principles classes as uninteresting and irrelevant. We, being all students, recalled our principles classes vividly, and there was general agreement that much of the economics covered in the core classes was dry and really not necessary to an understanding of the "principles" of economics.[1]

With this in mind, we tried to see if we could measure student attitudes about the interest and the relevancy of the contents of the principles classes. We also elected to measure students' own appraisals of their understanding of the subject matter with the idea that it might prove beneficial in our final analysis; e.g. the more interesting the subject matter the better the understanding of the subject matter (or vice versa). Thus, the basic purpose of this student questionnaire survey is to measure the student's opinions concerning the contents of the principles classes in regards to interest, applicability, and understanding. We realize that the results will not provide final solutions; however they should give the background and understanding necessary for a reconsideration and possible revision of the principles curriculum.

The justification for asking student opinion is twofold. The primary need for considering student opinion stems from the learning process itself which can be described in a thinkigg-learning model developed by J. R. Suchman, which we reproduce below.[2] The model presents thinking as a cybernetic system; that is, there is a circular flow of thinking activity initiated by the individual in response to an encounter with the outside world. Thinking and learning are regarded as the same thing--a circular flow interaction between a person's encounters and his existing knowledge (organizers) to create new knowledge.

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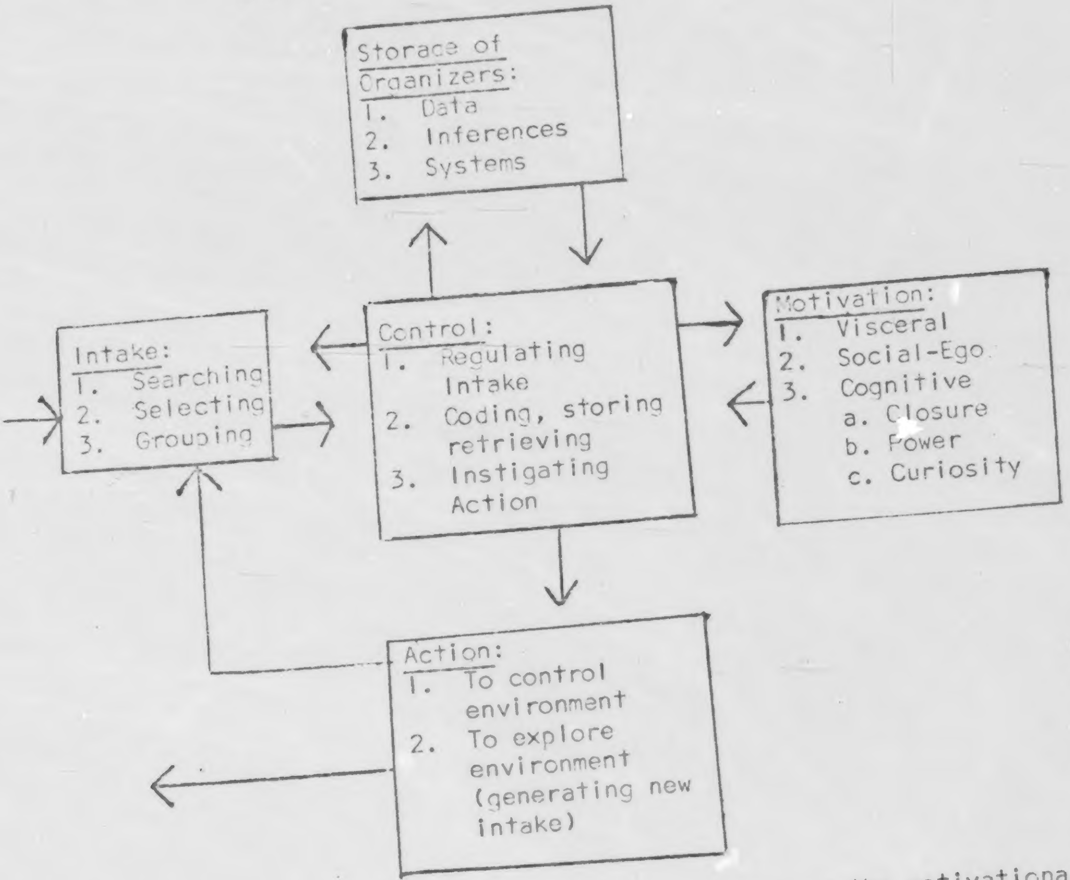
[1] Principles are defined in this presentation as that set of knowledge which will enable the student to effectively read, evaluate, and appraise economic decisions and policies.

[2] The learning-thinking model was developed by J. Richard Suchman in a series of articles in the Instructor Magazine, September, 1966 to June, 1967.

THE SUCHMAN LEARNING-THINKING MODEL


Storage of Organizers:
1. Data
2. Inferences
3. Systems
Intake:
1. Searching
2. Selecting
3. Grouping
Control:
1. Regulating Intake
2. Coding, storing retrieving
3. Instigating Action
Motivation:
1. Visceral
2. Social-Ego
3. Cognitive
a. Closure
b. Power
c. Curiosity
Action:
1. To control environment
2. To explore environment (generating new intake)

The use of the model is enhanced if we understand the motivational forces which provide the necessary inducement to prompt learning action on the part of the individual. Suchman identifies three kinds of motivation: (1) visceral, (2) social-ego, and (3) cognitive. The visceral level is characterized by instinctive rather than intellectual motivation and is related to survival needs. At the social-ego level, people are motivated by a desire for acceptance and status among their peer group or by a desire to please adults. The third and highest level is cognitive motivation, the desire by the learner to learn for his own intellectual development--the desire to seek new meaning and knowledge from new encounters.

There is, then, behind all learning, some reason or motive for learning which moves the individual to action. Although students have different reasons for learning, Suchman contends that learning is best achieved when the cognitive level is the motive force. Thus he states, "if the motivational system demands successful output as a defense against threats to survival or social-ego, there is no freedom for action to generate new encounters in exploring, pursuing new meanings, or understanding for its own sake.: Motivation appears as a key variable in controlling learning, determining the successful generation of new meaning and knowledge from an encounter.

Within the Suchman model, an encounter simply makes new information available. Any meaning which an individual derives from an encounter depends on the organizers that are applied. Thus there are many potential student responses to a classroom encounter, the associative distribution being in part determined by the particular organizers which make the encounter meaningful.

Classes can be thought of as an organized encounter generator. The student's intake of information (provided by the classroom encounter) depends on how his personal intellectual "system" is programmed. The mediating or control function determines the use of any encounter by the individual. Suchman proposes that an encounter which interests the student--that is, it holds his attention and induces him to act--leads to more new meaning than one which is passively received or ignored. For now the student can act upon the information taken from the encounter and struggle with it on his own terms. However, if the encounter is found to be uninteresting the student acts to alter or "reject" the new input and no new meaning is generated.

In sum, there are two key factors which effectively determine the future of an encounter. The first occurs at the point of control and intake. If the encounter proves to be of interest to the student and is not "rejected," then the learner acts upon the encounter with his organizers and this process leads to new knowledge and meaning. The second factor is that of motivation; the depth of new meaning and knowledge depends upon the level of motivation which drives the student. Thus, interest and motivation can be seen to be of particular relevance in determining how to organize classroom and home work encounters.

A secondary justification for inquiring into student attitudes is that we believe that much of the content of the principles classes is too esoteric. That is, in general, economists, textbook writers, professor, lecturers, etc. are too far removed from their undergraduate days and are imposing a learning situation on the students based on inadequate understanding of student motivations to learn. On one side we have the professional economist--he has had an understanding of many of the interrelations within this most complex science, furthermore he likes his discipline. On the other side, we have the student--in the majority of cases, he has no particular inclination towards economics and the principles classes are his first exposure to this discipline. Here is the dilemma. In many instances there can be no effective communication nor any exchange of knowledge between the omniscient economist and the unenlightened student, simply because they have a different perspective about economics.

II PROCEDURES

With the objectives clearly defined (the attempt to measure student opinion about the contents of the principles classes in economics using the criteria of interest, applicability, and understanding) the next step was to find out how to measure these opinions. Out of the several possibilities, we chose to measure student opinion through a questionnaire survey. There are several reasons for this decision: (1) the universe we wanted to measure was quite large and to get a valid measurement via an alternative vehicle (interviews or observations of classroom behavior) would be too time consuming: (2) not being professional interviewers, the discrepancy among the interviewers would probably be great and this objection also applied to classroom observations; and (3) most important, the objectivity and managability of numerical measurements that a questionnaire offers was very appealing.

Constructing a questionnaire proved to be quite a task. Our first impulse was to simply ask the student, "In your opinion, was so and so concept or topic interesting? Was it applicable? Did you understand it?" However after talks with Professor Plant of the San Jose Psychology Department we realized that we had to define what we meant by interest, and so forth. At this point, we turned to Dr. Wiggins and she suggested defining criteria for the student, which resulted in the five point scale we employed in our first questionnaire. This first questionnaire appears at the end of the paper as Attachment I.

This first questionnaire contains two sections. Section I is the Student Opinion Poll About the Concepts Presented in Economics IA and Section 2 provides data on the students enrolled in Economics IA and IB. A copy of the questionnaire appears at the end of this section as Attachment I.

In Section I, students were asked to evaluate and rate 45 items typically found in a principles class. (Five other fake concepts were included to ascertain whether students were following directions.) We used Samuelson's Economics textbook to identify the concepts and selection was made from the table of contents. Our criterion for selection was to include a broad variety of concepts. Our rationale was to employ an arbitrary "shot-gun" approach which would describe the content of a representative principles class.

The three criteria were defined on a five point scale, with each point on the scale measuring different degrees of interest, applicability, and understanding. Further, these gradations were so worded as to measure a specific behavior response, thus helping to clarify to ourselves and to the student exactly what we wanted measured.

At this time, we wanted to survey all students in the universe (all the students currently enrolled in Economics IA). Out of approximately 800 questionnaires distributed, approximately 15% were returned. Several factors account for this rather poor showing. First, the questionnaire itself proved to be too complicated and too long. In using a five-point scale for three criteria, the student constantly had to refer back to the scale and reread each alternative before answering, a time consuming and sometimes confusing task. Second, to avoid infringing upon class time, we allowed students to complete the questionnaire at home. Third the timing for administering the questionnaire collided with the final examinations.

Table I

Percentage Response to Questions on the Survey of Attributes of Students Enrolled in Econ IA & IB, Spring Semester, 1968

QUESTION	% of Respondents who Chose the Alternative				
Number	A	B	C	D	E
151. What is your present major?	35	2	33	10	16
152. In what year are you in school?	10	26	44	17	3
153. As of now, what is your occupational goal?	22	39	11	3	24
154. Why are you taking this economics course?	6	85	6	1	2
155. Your age is between?	48	31	10	5	6
156. Your sex is?	29	70	0	0	0
157. Are you employed or self-employed this semester?	46-	10	23	10	11
158. How many hours of course work are you carrying this semester?	3	8	27	49	13
159. Which of the following statements best describes your attitude about college.	9	1	26	63	1
160. From what you know now, do you believe economics can be used or applied?	6	4	53	36	0
161. Which of the following statements do you think best describes the field of economics?	26	40	4	13	17
162. Why do you think economics is a required course for some majors?	21	17	40	40	0

However, results from the first questionnaire provided valuable information for designing our final questionnaire. We realized that student opinion about interest, applicability, and understanding of economics content could be measured. Our problem was to secure a measurement of this opinion that would be representative of the entire universe.

We redesigned the questionnaire so that participants could complete it more easily, by discarding the five-point scale in favor of a single definition for each criterion. This definition for all three criteria was the fourth point in the five-point scale that was previously employed.[1] We also simplified the instructions and included an extra instruction asking the students to identify any items that were not sufficiently covered in class. The testing method was also revised. Students completed the questionnaire at home; however, we used a sample rather than the total population of students. We selected a combination "grid" and "random" sample. We felt that every class should be equally represented since there exists significant variations in each class. This "gridding" method did give undue weight to certain professors since many were teaching more than one principles class--they ranged from one to three classes). Within this "grid" five students were selected randomly from each class roster, and we used a "bingo" machine as the random selection device. We distributed 140 questionnaires, of which 82 were completed and returned, a 60% participation rate. Unfortunately, once again, the testings conflicted with final examinations.

Finally, we changed the concepts to be evaluated. The concepts and topics employed in the first questionnaire were criticized by many faculty members who questioned our basis for choosing what to include. To these criticisms we had no reply for we had no explicit selection rationale. For the second questionnaire we decided to structure the concepts and topics around four subject areas--Institutional, Social Problems, Historical, and Theory and Tools.[2] These categories were used (with the exception of Social Problems) in the "Faculty Survey Study" reported in the preceding essay. They seemed to be the logical categories to employ in this study, if we are to use these findings to evaluate or justify various approaches to teaching the principles classes described by our faculty.

The "institutional approach" as defined by the "Faculty Report" involves a study of corporation and government roles in our society and the economic effect of this organizational structure on different segments of our society as well as on other societies. We felt that this definition was too broad and should therefore be divided into two sections--Institutional and Social Problems. That is, we decided to isolate the roles of economic institutions from their effects to try to tell exactly where teaching emphasis should be placed.

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[1] See Attachment 1.

[2] See Attachment 4.

The Theory & Tools category represented the "technical approach" used by "most professors" in teaching economics, using the presentation of mathematical economic theory. We felt that the fourth category, Historical, should also be included because several professors suggested that, to a certain extent students should get an historical perspective of the U.S. and other economies in a principles class.

The number of concepts in each category were also determined in response to suggestions reported in the faculty survey. In the faculty interviews, the majority indicated that they favored an "institutional", or a combination of "institutional" with "technical" or "historical", approach and we therefore gave greatest weight to the two categories dealing with the "institutional approach". The "technical approach" was also highly favored and was therefore given substantial weight whereas the "historical approach" was only voiced by a minority of the faculty and consequently given minor weight.

III FINDINGS

SURVEY OF STUDENTS ENROLLED IN ECONOMICS IA AND IB

The purpose of the "Survey of Students Enrolled in Economics IA and IB" was to get a description of the universe with which we were dealing. The universe was defined to be all students enrolled in Economics IA and IB. In the spring semester, 1968, there were 13 Econ IA classes and 16 Econ IB classes totaling 29 classes in all. The total number of students enrolled at the beginning of the semester was 1019; however, due to subsequent withdrawals or failure to comply with the course requirements (attendance, papers, etc.) the universe is probably slightly smaller. Of these students, 45% were enrolled in Econ IA, 48% had taken Econ IA and were currently enrolled in Econ IB, while only 4% had not taken Econ IA but were enrolled in Econ IB. Taking this into consideration, we decided that a survey of the contents of Economics IA could be given to both the IA and IB students since only 4% had not taken the IA course

The first eight items in this survey aimed at identifying basic characteristics of students enrolled intre principles class. The ninth item asked students about their general attitude towards college and the last three items asked about students' general attitude towards economics. A copy of the survey appears at the end of the essay as Attachment 2.

The survey was distributed to 792 students and the students completed this questionnaire in class. Although we had hoped for a complete enumeration, absentees prevented this and the results are from about an 80% participation rate. Table I summarizes the results; see Attachment 2 for the complete statement of the survey questions.

The complete results of this questionnaire can be found in Supplement 2, the following is a brief commentary on results from three questions which are of particular significance and deserve special notice.

Question 1: What is your present major?

Of the five alternatives offered; a) business, b) economics, c) another social science, d) engineering, and e) other, only 17 students or 2% of the universe were economics majors. Of the 98% non-majors enrolled in the principles classes, 36% were business, 33% another social science, 10% in engineering and the remaining 18% responded to other.

Question 2: In what year are you in school?

The following are the alternatives and the responses: a) freshman, 10%; b) sophomore, 26%; c) junior, 44%; d) senior, 17%; and e) graduate, 3%. The immediate implications of this result is that only 36% of the students taking the principles classes are lower division students while 64% are upper division and graduate students.

Question 4: Why are you taking this economics course?

The overwhelming majority--85%--were enrolled in the principles class because it was a required course; 6% indicated a previous interest i economics and another 6% had a curiosity of what economics involves.

THE FIRST STUDENT OPINION POLL ON COURSE CONTENT

The results from this questionnaire, taken from 100 completed forms showed that student attitudes could be measured. For each item we constructed frequency distributions of student responses. These frequency distributions showed most items to have a normal distribution, however, a number of items showed a definite skewness (both right and left).

The five "fake" items showed insignificant results; evidently, students recognized them as fake. We interpreted the definite skewness of many of the distributions to indicate a definite positive or negative reaction of students to different concepts. Also many of the items show heavy responses while others show light responses. This is attributed to the instructions given to the students not to respond to any items they were unable to identify. A final significant finding of this analysis of frequency distributions is that the majority of the items did not receive extreme responses (either response 1 or 5); however, the few items that did receive these extreme responses are noteworthy, for response 1 and 5 were so worded as to evoke extreme behavior.

Because of the low percentage questionnaire return and the probable biases they created we abandoned further analysis of the results and decided to redesign and administer the questionnaire. The results of this first questionnaire, however, were helpful in the formulation of the final questionnaire.

THE SECOND STUDENT OPINION POLL ABOUT THE CONCEPTS PRESENTED IN ECONOMICS IA.

A copy of the opinion survey appears as Attachment 3 at the end of this report. If the analysis of the results of the student poll may seem rather elementary, this is due to two factors--1) our knowledge and employment of statistical methods and 2) limited computer time, which made it impossible to use more sophisticated statistical methods.

Students were asked to rank fifty concepts as to interst, relevance and understanding. The defining criteria were as follows:

Interest: In your opinion was the concept or topic interesting enough to provoke some thought in class.

Relevance: In your opinion was the concept or topic practical, that is, you recognized that it describes or explains economic behavior or organization in the real world.

Understanding: Could you reproduce the argument of the concept or topic in writing?

the alternative responses were:

If yes, mark A,
If no, mark B,
If the concept or topic was not covered in class, then mark C.

The criterion with the highest percentage "A", or yes, response for all fifty concepts and topics was Relevance. The percentages ranged from 98.6% to 46.7% and the mean was 75.2%. The range of percentages under the Interest criterion was between 94.5% and 38.1%. The mean percentage of the "A", or yes, responses was 69.7%. The Understanding criterion ranked lowest with a range between 90.3% and 21.7%, the mean percentage was 62.8%. This suggests that, as a whole, this population felt that the concepts or topics that were presented were more relevant than interesting and more interesting than understood by the students.

We ranked the fifty concepts by percent of yes response and Table 2 lists the fifty concepts ranked from highest to lowest on the Interest criteria.[1] The first column shows the ranks of the concepts according to

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[1] For the complete results of the rankings and the response percentages, see Attachment 5.

Interest, the second column of ranks is for Understanding, and the third column or ranks for Relevance. From these rankings, we computed a simple rank correlation[1] and the results are as follows:

Interest and Understanding $\rho = +\ .70$
Interest and Relevance $\rho = +\ .68$
Relevance and Understanding $\rho = +\ .65$

These computations of the coefficient of correlation are only rough measures; however, they do indicate that a fairly high positive association does exist between the three criteria, especially between Interest and Understanding.

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[1] The measure of rank correlation employed was developed by Charles Edward Spearman. The formula for this coefficient of rank correlation is:

$$\rho = 1 - \frac{6 \sum D^2}{N (N^2 - 1)},$$

where stands for the coefficient of rank correlation,
D stands for the difference between each pair of ranks,
$\sum$ is the symbol for "sum of", and
N stands for the number of paired items.

Table 2

RANKINGS OF THE FIFTY ITEMS RANKED ACCORDING TO STUDENT INTEREST, RELEVANCE, & UNDERSTANDING

ITEMS	RANKS Interest	 Understanding	 Relevance
inflation	1	1	1
role of government in the economy	2	2	4
international reserve shortage (the gold problem)	3	25	16
unemployment	4	3	17
taxation	5	7	2
Karl Marx	6	20	44
investment and savings	7	4	10
theory of consumer demand (consumption function)	8	15	30
impact of technology (alienation, unemployment, etc.)	9	9	18
economic growth	10	34	11
federal reserve system	11	22	14
money supply	12	23	15
poverty	13	5	12
wars and the allocation of resources	14	19	25
fiscal policy	15	35	24
impact of unionization	16	27	21
allocation of resources	17	13	23
distribution of income	18	46	32
progressive and regressive taxation	19	10	6
national debt	20	36	7
monopoly power	21	8	13
unions	22	6	3
circular flow of income	23	16	31
balance of payments	24	28	5
development of a class society	25	33	29
national income accounting (GNP, NNP, etc.)	26	17	22
social imbalance (resource misallocation & conservation)	27	29	27
international trade	28	14	19
power elite (social stratification, social immobility)	29	32	42
business cycles	30	30	9
income determination (income theory)	31	39	40
economic freedom, justice (race, nationality, etc.)	32	26	34
marginal propensity to consume (MPC)	33	18	35
scarcity	34	11	8

Table 2
(continued)

ITEMS	RANKS		
	Interest	Understanding	Relevance
ruling class control of government	35	12	46
recession	36	21	20
accelerator principle	37	37	48
production possibilities curve	38	24	38
multiplier	29	38	43
capital formation	40	40	26
induced investment	41	47	41
open market operations	42	43	28
imperialism	43	31	37
theory of comparative advantages	44	49	47
stabilization policy (countercyclical policy)	45	50	33
discount rate	46	44	36
the historical process of industrialization	47	45	39
Adam Smith	48	48	50
household sector	49	42	45
mercantilism	50	41	49

Table 3 below identifies the general subject area of each of the ten concepts or topics in the same rank quintile for the Interest criterion.[1] This grouping shows that, as a whole, the concepts under the Social Problems category ranked highest, with 60% in boxes 1 and 2. On the other hand, two thirds of the concepts dealing with Theory & Tools are in boxes 3 and 4, and 60% of the Historical concepts are in box 5. The concepts under the Institutional definition showed no revealing distribution.

Table 3

DESCRIPTION OF THE FIFTY RANKED CONCEPTS

Rank (1-10)	Rank (11-20)	Rank (21-30)	Rank (31-40)	Rank (41-50)
SP, SP, SP SP, I, I, T, T, T, H.	SP, SP, SP, SP, SP, I, I, I, I, I.	SP, SP, SP, I, I, T, T, T, T, H.	SP, SP, I, I, T, T, T, T, T, T.	SP, I, I, I, I, T, T, H, H, H.

SP-Social Problems, I-Institutional, T-Theory & Tools, and H-Historical.

The Social Problems category also has the highest mean percentage of yes responses under the Interest criterion (75.5%). Institutional had a mean percentage of 69.2%, Theory & Tools 68.8% and Historical 57.3%. These mean percentages support the contention that, generally speaking, the Social Problems category ranked highest in regards to Interest.

Students were asked to identify any items that were not covered sufficiently in class. Table 4 lists the thirteen concepts or topics that were most often identified.

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[1] Attachment 4 lists the concepts according to the four general subject areas; social problems, institutional, theory & tools, and historical.

Table 4

Items Identified by Students as Receiving Inadequate Class Coverage[1]

ITEMS	% Responding	Subject Area[2]
1. economic freedom, justice (race, nationality, etc.)	40.0%	SP
2. poverty	34.3	SP
3. unions	34.3	I
4. fiscal policy	31.5	I
5. war and the allocation of resources	28.6	SP
6. ruling class control of government	28.6	I
7. impact of unionization	25.7	SP
8. Karl Marx	25.7	H
9. power elite (social stratification, social immobility)	24.6	SP
10. stabilization policy (countercyclical policy)	24.6	I
11. development of a class society	22.8	H
12. imperialism	22.8	SP
13. national debt	22.8	SP

[1] The item read "If you feel that there was not enough class time spent on the concept of topic, then circle the item on this questionnaire form."

[2] SP-Social Problems, I-Institutional, and H-Historical.

Table 4 again indicates that the Social Problems category is of high interest to the student (over 50% of the items in the table are included in the Social Problems category). Although these results are based on only 35 questionnaires in which students responded to this question that followed direction 4, the findings cannot be entirely reliable.

An investigation of each of the concepts and topics and their rankings did not indicate any pronounced conclusions. However, the concepts or topics that related to current events ranked higher than related concepts or topics that are less newsworthy and often more abstract or general. For example, under the Interest criterion, inflation ranked #1 while recession ranked #36. The role of government ranked #2 whereas fiscal policy ranked #15 and stabilization policy ranked #45. International reserve shortage (the gold problem) ranked #3, balance of payments ranked #24 and international trade ranked #28. Wars and the allocation of resources (#14) ranked slightly higher than allocation of resources (#17) and substantially higher than scarcity (#34). Other such examples can be seen by referring to Attachment 5.

This tendency may also explain or be evidenced by the fact that, as a whole, the Historical category fared badly under the Interest rankings. The noticeable exception is Karl Marx who ranks #6. This survey, however, was not designed to measure this relationship and therefore no conclusions can be arrived at concerning this matter. Another survey appears appropriate to support this very important hypothesis.

IV CONCLUSIONS AND RECOMMENDATIONS

Ninety-eight percent of the students taking the principles classes are non-majors and yet Econ IA and Econ IB are designed for and are an integral part of the Economics major curriculum. If the two courses are intended primarily to meet the requirements for taking upper division Economics courses; then the needs of the students actually taking the course are oftentimes neglected.

The students are a fairly "mature" audience for a lower division course (64% are either juniors, seniors, or graduates) and have therefore been "exposed" more to many of the contemporary problems of our society. It could be that in their pursuit of knowledge, they are searching for answers and solutions for these problems. Many of the issues and problems which confront our society today are of an economic nature. A need exists, then for an orientation which will focus upon these problems and offer alternative solutions and still provide the necessary theoretical background for further investigation and study.

The students themselves are, in the majority, a relectant audience; that is, they are taking Economics IA and IB simply because they have to do so. (Only 12% of the students indicated they enrolled because they had an interest in economics whereas 8[illegible]% indicated they enrolled because the course was required). It cannot be assumed that the students have an inclination toward or motivation to learn economics; rather, experience indicates that this motivation has to be created.

The interrelation of interest, motivation and learning has clearly been illustrated by the Suchman model. It will be recalled that an encounter which arouses the interest of the student and motivates him to action will lead to new learning and understanding. The results of our survey also indicated a close correlation between interest and understanding. Those topics which rated high in the interest criteria also received similar high ratings on the understanding criteria. (The coefficient of correlation was 0.70). We may infer from the theory and our results that student interest should receive serious consideration in the structuring of the economics curriculum.

The orientation of student interest can be partially determined by reference to Table 3. This table indicates that the students found concepts or topics which are related to social problems to be of highest interest. A further investigation of the individual concepts indicated that current rather than less contemporary social issues ranked highest on the interest scale.

Another consideration which was measured was the relevance of a topic or concept. Intuitively, the relevant topics would involve current problems which confront our society today, and, being relevant, these problems should arouse the interest of the student. This study indicated a correlation between interest and relevance as having a coefficient of 0.68. The similar ranking of interest and understanding (0.70) and interest and relevance (0.68) would suggest that relevance is instrumental to understanding and to the learning process. However, this cannot be confirmed with the available data and further investigation is necessary for a more positive statement.

SUMMARY

We now stand at the threshold of making recommendations based upon this study. Although it does not provide answers, but rather, provides the necessary background and understanding, it does suggest a direction in the reorganization of the principles classes.

Our major recommendation would be to restructure the principles classes around subject matter that would be of interest to the student to make him receptive to learning. This subject matter should be oriented to contemporary social problems of America and the world. We do not advocate that the course should be altered or changed to a current events class; on the contrary, this study shows, and we ourselves believe, that much of the institutional, theoretical and historical subject matter does have relevance and is of interest to the student--what we do advocate is an emphasis on the social problems, or perhaps a course organization which permits students to see the application of formal economics to social problems of interest to them.

A second recommendation would be to consider dropping Econ IA and Econ IB as requirements for the major and as prerequisites for upper division economics courses. Econ 101 and Econ 102 could easily be substituted as the necessary prerequisites. This would allow the principles classes more freedom and time to meet the needs of the students enrolled in these classes. We do not recommend nor advocate any lowering of the instructional standards in the economics discipline; the lecturer must maintain his integrity towards economics. What we do recommend is an emphasis upon, not an exclusion of, certain categories of subject matter.

ATTACHMENT I

San Jose State College
Economics IA - IB
Student Survey
Fall, 1967

The purpose of this survey is to describe the students currently enrolled in Economics IA and IB and to learn your reactions to the content of Economics IA. It is part of a larger study of the introductory course sequence in economics to determine what measures might be taken to improve the course in the coming years. The survey is in two sections, the first section is the student opinion poll and the second section is a general survey.

You do not have to sign your name on the answer cards and the cards of individual students cannot be identified. Please be careful to follow directions and answer the following questions as honestly as you can.

Mark your choice to each question in the space for that question on the provided IBM card. For each question mark only one alternative. There are three answer cards. Be sure to answer questions on the correct card and to hand in all three cards.

Section I

Student Opinion Poll About Concepts Presented in Economics IA

Listed below are fifty concepts or categories of subject matter. You are to rate these fifty items on a five point scale (A, B, C, D, E) according to three criteria: interest, applicability and understanding.

Please mark your ranks for each item on the IBM cards provided, using a special IBM pencil. Rank each item according to the following subcriteria:

INTEREST CRITERIA

Mark A if, in your opinion, the concept or topic was not interesting and almost put you to sleep.

Mark B if, in your opinion, the concept or topic was not interesting but you were able to pay attention most of the time.

Mark C if, in your opinion, the concept or topic was neutral as to interest but you were able to pay attention.

Mark D if, in your opinion, the concept or topic was interesting enough to provoke some thought in class.

Mark E if, in your opinion, the concept or topic was interesting enough to make you raise questions or do some research or thinking outside of class.

SURVEY

APPLICABILITY:

Mark A if, in your opinion, the concept or topic was so abstract (theoretical) that you couldn't see it's relation to any real situation or problem.

Mark B if, in your opinion, the concept or topic was very abstract (theoretical) but probably necessary to understand a related concept or topic.

Mark C if, in your opinion, the concept or topic was abstract (theoretical) but probably a necessary prerequisite for understanding major areas of economies.

Mark D if, in your opinion, the concept or topic was practical; that is, you recognize that it describes or explains economic behavior or organization in the real world.

Mark E if, in your opinion, the concept or topic was practical; that is, useful in your everyday life for understanding and functioning in the society.

UNDERSTANDING:

Mark A if the concept or topic was too difficult, you could not follow the lecture.

Mark B if the concept or topic was difficult, but made understandable after reading the text and hearing the lecture.

Mark C if the concept or topic was difficult but you could answer questions on the subject.

Mark D if you could reproduce the argument or the concept or topic in writing.

Mark E if the concept or topic was so clear that you can use it in conversation or apply it to problems.

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To rank the following concepts and topics proceed as follows:

(1) on the first-fifty (50) answer blocks on the IBM card rank the concepts and topics listed below by the interest criterion as defined above.

(2) from answer block 51-100 rank the same fifty concepts and topics as to applicability as defined above.

(3) from answer block 101-150 rank these same fifty concepts and topics as to your understanding as defined above.

For example. In answer block 1 on the IBM card you would rank laissez faire by the interest criterion, in answer block 51 on card 1 rank laissez faire by the applicability criterion, and in answer block 101 on card 2 rank laissez faire by the understanding criterion.

SURVEY

Important Instructions

1. Please rank all fifty items on one criterion before you proceed to the next criteria. That is, rank all fifty items using the interest criteria before you start ranking the items on the applicability criteria. Then rank all fifty items on the applicability criteria before you rank them on the understanding criteria.
2. Make only one mark on each answer block.
3. There are a total of 150 answers in this section. Make sure you keep track of the number corresponding to each concept. In the following list--all three numbers preceed the concept.
4. If the concept or topic was not discussed in class lecture or in required readings, then leave the answer block blank.

IAU CONCEPTS IAU

1, 51, 101. laissez faire
2, 52, 102. devaluation
3, 53, 103. full employment
4, 54, 104. business cycles
5, 55, 105. consumption function
6, 56, 106. recession
7, 57, 107. economic freedom
8, 58, 108. social overhead capital
9, 59, 109. production function
10, 60, 110. deficit financing
11, 61, 111. central banks
12, 62, 112. market demand
13, 63, 113. inductive consumption
14, 64, 114. consumer price index
15, 65, 115. accelerator principle
16, 66, 116. imperialism
17, 67, 117. inflation
18, 68, 118. Fourier Series
19, 69, 119. wage guide lines
20, 70, 120. balance of payments

(go to the head of the next column)

21, 71, 121. diminishing returns
22, 72, 122. gold standard
23, 73, 123. multiplier
24, 74, 124. Anti-trust legislation
25, 75, 125. marginal propensity to consume
26, 76, 126. quantity theory of money
27, 77, 127. pre marginal demand
28, 78, 128. circular flow of income
29, 79, 129. surplus value
30, 80, 130. interest rate
31, 81, 131. dumping
32, 82, 132. money creation
33, 83, 133. automatic stabilizers
34, 84, 134. cost push theory of inflation
35, 85, 135. counter cyclical fiscal policy
36, [illegible], 136. Marxian Curve
37, 87, 137. deflation
38, 88, 138. national debt
39, 89, 139. comparative costs
40, 90, 140. liquidity trap

(continued on the next page)

SURVEY

CONCEPTS (continued)

41, 91, 141. comparative advantage
42, 92, 142. mercantilism
43, 93, 143. discount rate
44, 94, 144. open market operations
45, 95, 145. liquidity preference
46, 96, 146. business forecasting
47, 97, 147. Cauchy-Schwartz inequality
48, 98, 148. socialism
49, 99, 149. gross national product (GNP)
50, 100, 150. normative economics

Section 2

Survey of Students enrolled in Economics IA and IB.

Instructions

1. Mark the correct alternative to each question in the space provided on the third IBM card in spaces 151-162.
2. For each question mark only one alternative.
3. Please complete all questions.

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151. What is your present major?
   a. Business
   b. Economics
   c. another social science (history, geography, sociology, political science, anthropology)
   d. Engineering
   e. other

152. In what year are you in school?
   a. Freshman
   b. Sophomore
   c. Junior
   d. Senior
   e. Graduate

153. As of now, what is your occupational goal?
   a. Educational field
   b. Business field
   c. Technical field (i.e., Math., Engineering, Physics)
   d. Science field
   e. Other

SURVEY

154. Why are you taking this economics course?
    a. Previous interest in economics
    b. Required
    c. Curiosity of what economics involves
    d. Friend suggested that I take it
    e. other

155. Your age is between?
    a. 18-20
    b. 21-23
    c. 24-26
    d. 27-29
    e. 30 +

156. Your sex is?
    a. Female
    b. Male

157. Are you employed or self-employed this semester?
    a. no
    b. yes, 0-10 hours
    c. yes, 11-20 hours
    d. yes, 21-30 hours
    e. yes, 31 hours or more

158. How many hours of course work are you carrying this semester?
    a. less than 6
    b. 6-10
    c. 11-14
    d. 15-16
    e. 17 or more

159. Which of the following statements best describes your attitude about college.
    a. I want to do a minimum amount of work and still get my degree.
    b. The academic part is a bore, but I enjoy the social life.
    c. There are too many required courses to take.
    d. I am here to learn and generally I enjoy my courses.

160. From what you know now, do you believe economics can be used or applied?
    a. No, its use is mainly limited to classroom situations and by economists.
    b. No, it is theoretical study which does not deal directly with real world problems.
    c. Yes, it is applicable to other classes and interests of mine.
    d. Yes, it is applicable to current social problems, even though I am not particularly interested in these problems myself.

SURVEY

161. Which of the following statements do you think best describes the field of economics?
   a. It is the study of how society produces and distributes scarce resources.
   b. It is the study of how choices are made about the means of achieving the society's general economic goals.
   c. It is the study of how business operates.
   d. It is the study of large scale government, business and labor and their economic power.
   e. It is a study which encompasses all of the social sciences.

162. Why do you think economics is a required course for some majors?
   a. The study of economics should enable me to better understand the reason for certain political decisions.
   b. A solid foundation in the fundamentals of economics will prepare me for future academic study in economics or in other ways.
   c. The problems we face today as consumers and producers are economics questions and studying economics should help me make better economic choices.
   d. This is really a new field for me; I understand some concepts and ideas in economics, but this course should fill in my knowledge of the field.

ATTACHMENT 2

Survey of Students Enrolled in Economics IB

Instructions

1. The purpose of this survey is to get a description of the students currently enrolled in Economics IB. Please answer each question as truthfully as you can. This survey will have no influence on the class in which you are now enrolled.
2. Sign your name on the IBM card.
3. Mark the correct alternative to each question in the space provided on the third IBM card in spaces 151-162.
4. For each question mark only one alternative.
5. Please complete all questions.

---

151. What is your present major?
    a. Business
    b. Economics
    c. Another social science (history, geography, sociology, political science, anthropology)
    d. Engineering
    e. Other

152. In what year are you in school?
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Graduate

153. As of now, what is your occupational goal?
    a. Educational field
    b. Business field
    c. Technical field (i.e., Math, Engineering, Physics)
    d. Science field
    e. Other

154. Why are you taking this economics course?
    a. Previous interest in economics
    b. Required
    c. Curiosity of what economics involves
    d. Friend suggested that I take it
    e. Other

155. Your age is between?
    a. 18-20
    b. 21-23
    c. 24-26
    d. 27-29
    e. 30+

156. Your sex is?
    a. Female
    b. Male

157. Are you employed or self-employed this semester?
    a. No
    b. Yes, 0-10 hours
    c. Yes, 11-20 hours
    d. Yes, 21-30 hours
    e. Yes, 31 hours or more

158. How many hours of course work are you carrying this semester?
    a. Less than 6
    b. 6-10
    c. 11-14
    d. 15-16
    e. 17 or more

159. Which of the following statements best describes your attitude about college?
    a. I want to do a minimum amount of work and still get my degree.
    b. The academic part is a bore, but I enjoy the social life.
    c. There are too many required courses to take.
    d. I am here to learn and generally I enjoy my courses.

160. From what you know now, do you believe economics can be used or applied?
    a. No, its use is mainly limited to classroom situations and by economists.
    b. No, it is theoretical study which does not deal directly with real world problems.
    c. Yes, it is applicable to other classes and interests of mine.
    d. Yes, it is applicable to current social problems, even though I am not particularly interested in these problems myself.

161. Which of the following statements do you think best describes the field of economics?
    a. It is the study of how society produces and distributes scarce resources.
    b. It is the study of how choices are made about the means of achieving the society's general economic goals.
    c. It is the study of how business operates.
    d. It is the study of large scale government, business and labor and their economic power.
    e. It is a study which encompasses all of the social sciences.

162. Why do you think economics is a required course for some majors?
   a. The study of economics should enable me to better understand th reason for certain political decisions.
   b. A solid foundation in the fundamentals of economics will prepare me for future academic study in economics or in other ways.
   c. The problems we face today as consumers and producers are economi questions and studying economics should help me make better economic choices.
   d. This is really a new field for me; I understand some concepts and ideas in economics, but this course should fill in my knowledge of the field.

ATTACHMENT 3

San Jose State College
Economics IA
Student Survey
Spring, 1968

The purpose of this survey is to learn your reactions to the content of Economics IA. It is part of a larger study of the introductory course sequence in economics to determine what measures might be taken to improve the course in the coming years.

Listed below are fifty concepts or categories of subject matter. You are to rate these fifty items according to three criteria: interest, applicability, and understanding.

Please mark your responses for each item on the IBM card provided, using the special IBM pencil. Respond to each item according to the following subcriteria:

INTEREST CRITERION
In your opinion was the concept or topic interesting enough to provoke some thought in class.
If yes, mark A.
If no, mark B.
If the concept or topic was not covered in class, then mark C.

APPLICABILITY CRITERION
In your opinion was the concept or topic practical; that is, you recognized that it describes or explains economic behavior or organization in the real world.
If yes, mark A.
If no, mark B.
If the concept or topic was not covered in class, then mark C.

UNDERSTANDING CRITERION
Could you reproduce the argument of the concept or topic in writing?
If yes, mark A.
If no, mark B.
If the concept or topic was not covered in class, then mark C.

To respond to the following concepts and topics below, proceed as follows:

1. Please rate all fifty items on one criterion before you proceed to the next criterion. That is, rate all fifty items using the interst criterion before you start rating the items on the applicability criterion. Then rate all fifty items on the applicability criterion before you rate them on the understanding criterion.

2. Make only one mark on each answer block.

3. There are a total of 150 answers. Make sure you keep track of the number corresponding to each concept. (Interest 1-50, Applicability 51-100, Understanding 101-150.)

4. If you feel that there was not enough class time spent on the concept or topic, then circle the item on this questionnaire form.

CONCEPTS

1, 51, 101. inflation

2, 52, 102. unions

3, 53, 102. development of a class society

4, 54, 104. theory of consumer demand (consumption function)

5, 55, 105. allocation of resources

6, 56, 106. economic freedom, justice (race, nationality, etc.)

7, 57, 107. theory of comparative advantages

8, 58, 108. taxation

9, 59, 109. balance of payments

10, 60, 110. open market operations

11, 61, 111. impact of unionization

12, 62, 112. income determination (income theory)

13, 63, 113. accelerator principle

14, 64, 114. household sector

15, 65, 115. imperialism

16, 66, 116. Karl Marx

17, 67, 117. social imbalance (resource misallocation & conservation)

18, 68, 118. business cycles

19, 69, 119. role of government in the economy

20, 70, 120. recession

21, 71, 121. induced investment

22, 72, 122. discount rate

23, 73, 123. ruling class control of government

24, 74, 124. multiplier

25, 75, 125. unemployment

26, 76, 126. International reserve shortage (the gold problem)

27, 77, 127. national income accounting (GNP, NNP, etc.)

28, 78, 128. wars and the allocation of resources

29, 79, 129. the historical process of industrialization

30, 80, 130. national debt

31, 81, 131. poverty

32, 82, 132, circular flow of income

33, 83, 133. money supply

34, 84, 134. federal reserve system

35, 85, 135. impact of technology (alienation, unemployment)

36, 86, 136. mercantilism

37, 87, 137. marginal propensity to consume (MPC)

38, 88, 138. international trade

39, 89, 139. monopoly power

40, 90, 140. stabilization policy (countercyclical policy)

41, 91, 141. investment and savings

42, 92, 142. progressive and regressive taxation

43, 93, 143. Adam Smith

44, 94, 144. power elite (social stratification, social immobility)

45, 95, 145. economic growth

46, 96, 146. scarcity

47, 97, 147. production possibilities curve (transformation curve)

48, 98, 148. distribution of income

49, 99, 149. capital formation

50,100, 150. fiscal policy

ATTACHMENT 4: Concepts Categorized Into the Four Major Subject Areas

INSTITUTIONAL

1. role of government in the economy
2. federal reserve system
3. household sector
4. taxation
5. stabilization policy (countercyclical policy)
6. open market operations
7. national debt
8. International trade
9. unions
10. ruling class control of government
11. discount rate
12. fiscal policy
13. money supply
14. allocation of resources
15. scarcity

the following were also considered for inclusion: automation, union misleaders, rank and file union militancy, use of police and army against workers, blacks, etc.

SOCIAL PROBLEMS

1. inflation
2. recession
3. power elite (social stratification, social immobility)
4. economic freedom, justice (race, nationality, etc.)
5. progressive and regressive taxation
6. unemployment
7. social imbalance (resource misallocation and conservation)
8. monopoly power
9. imperialism
10. impact of unionization
11. international reserve shortage (the gold problem)
12. poverty
13. wars and the allocation of resources
14. distribution of income
15. impact of technology

the following were also considered for inclusion: negative income tax, professors are servants of the ruling class, the schools are places to stamp people with ruling class ideology.

THEORY & TOOLS

1. theory of consumer demand (consumption function)
2. marginal propensity to consume (MPC)
3. accelerator principle
4. economic growth
5. multiplier

6. investment and savings
7. business cycles
8. circular flow of income
9. national income accounting (GNP, NNP, etc.)
10. theory of comparative advantage
11. balance of payments
12. capital formation
13. income determination (income theory)
14. induced investment
15. production possibilities curve (transformation curve)

the following were also considered for inclusion: infant industry argument, historical materialism, class struggle, revolution, what is a revolutionary situation?, building socialism, overthrowing capitalism.

HISTORICAL

1. Adam Smith
2. mercantilism
3. development of a class society
4. historical process of industrialization
5. Karl Marx

the following were also considered for inclusion: Granger movement, New Deal, Enclosure movement, black slave revolts, Flint auto sit down strike.

ATTACHMENT 5

RANKINGS FOR INTEREST CRITERION

ITEMS	% OF YES RESPONSE	% of RESPONSES FROM COMPLETE SAMPLE	CATEGORY
1. inflation	94.5	95	SP
2. role of government in the economy	93.1	94	I
3. international reserve shortage (the gold problem)	89.5	87	SP
4. unemployment	87.5	95	SP
5. taxation	85.7	91	I
6. Karl Marx	85.4	55	H
7. investment and savings	82.8	91	T
8. theory or consumer demand (consumption function)	82.0	100	T
9. impact of technology (alienation, unemployment, etc.)	80.6	87	SP
10. economic growth	78.4	96	T
11. federal reserve system	77.9	88	I
12. money supply	77.9	88	I
13. poverty	77.8	82	SP
14. wars and the allocation of resources	76.2	78	SP
15. fiscal policy	76.0	92	I
16. impact of unionization	75.4	69	SP
17. allocation of resources	74.6	92	I
18. distribution of income	74.6	92	SP
19. progressive and regressive taxation	74.0	75	SP
20. national debt	73.1	87	I
21. monopoly power	73.0	82	SP
22. unions	72.7	71	I
23. circular flow of income	72.2	94	T
24. balance of payments	72.1	79	T
25. development of a class society	72.0	65	H
26. national income accounting (GNP, NNP)	71.2	95	T
27. social imbalance (resource misallocation and conservation)	70.4	70	SP
28. international trade	70.0	78	I
29. power elite (social stratification, social immobility)	69.8	57	SP
30. business cycles	69.1	88	T
31. income determination (income theory)	69.1	88	T
32. economic freedom, justice (race, nationality, etc.)	68.6	66	SP
33. marginal propensity to consume (MPC)	67.1	91	T
34. scarcity	65.1	86	I
35. ruling class control of government	64.3	54	I
36. recession	64.3	90	SP
37. accelerator principle	64.1	69	T
38. production possibilities curve	63.0	84	SP
39. multiplier	62.8	91	T
40. capital formation	62.3	79	T

ATTACHMENT 5 - (continued)

ITEMS	% OF YES RESPONSE	% of RESPONSES FROM COMPLETE SAMPLE	CATEGORY
41. induced investment	60.7	73	T
42. open market operations	58.7	82	I
43. imperialism	55.6	58	Sp
44. theory of comparative advantages	55.6	47	T
45. stabilization policy (countercyclical policy)	52.4	55	I
46. discount rate	51.8	70	I
47. the historical process of industrialization	46.0	63	H
48. Adam Smith	45.0	78	H
49. household sector	44.0	65	I
50. mercantilism	38.1	56	H

ATTACHMENT 5 - (continued)

RANKING FOR UNDERSTANDING CRITERION

	ITEMS	% OF YES RESPONSE	% of RESPONSES FROM COMPLETE SAMPLE	CATEGORY
1.	inflation	90.3	93	SP
2.	role of government in the economy	85.9	92	I
3.	unemployment	84.7	93	SP
4.	investment and savings	84.1	89	T
5.	poverty	81.7	78	SP
6.	unions	80.7	74	I
7.	taxation	80.6	87	I
8.	monopoly power	79.0	81	SP
9.	impact of technology (alienation, unemployment)	78.1	83	SP
10.	progressive and regressive taxation	75.0	83	SP
11.	scarcity	73.5	88	I
12.	ruling class control of government	73.4	59	I
13.	allocation of resources	72.5	90	I
14.	international trade	72.4	76	I
15.	theory of consumer demand (consumption function)	72.4	98	T
16.	circular flow of income	71.4	91	T
17.	national income accounting (GNP, NNP, etc.)	69.4	94	T
18.	marginal propensity to consume (MPC)	69.1	88	T
19.	wars and the allocation of resources	68.4	78	SP
20.	Karl Marx	67.4	56	H
21.	recession	66.7	90	SP
22.	federal reserve system	66.6	90	I
23.	money supply	65.7	87	I
24.	production possibilities curve	65.5	84	T
25.	international reserve shortage (the gold problem)	65.2	89	SP
26.	economic freedom, justice (race, nationality,etc)	64.8	70	SP
27.	impact of unionization	64.2	69	SP
28.	balance of payment	63.5	82	T
29.	social imbalance (resource misallocation & conservation)	62.7	78	SP
30.	business cycles	62.3	90	I
31.	imperialism	61.8	55	SP
32.	power elite (social stratification, social imbalance)	57.8	59	SP
33.	development of a class society	57.7	68	H
34.	economic growth	56.2	95	T
35.	fiscal policy	55.9	88	I
36.	national debt	54.7	83	I
37.	accelerator principle	53.6	73	T
38.	multiplier	53.1	85	T
39.	income determination	52.2	87	T
40.	capital formation	51.7	78	T

ATTACHMENT 5 - (continued)

ITEMS	% OF YES RESPONSE	% OF RESPONSES FROM COMPLETE SAMPLE	CATEGORY
41. mercantilism	50.0	60	H
42. household sector	47.2	68	I
43. open market operation	45.0	78	I
44. discount rate	44.8	76	I
45. the historical process of industrialization	43.6	71	H
46. distribution of income	42.6	90	SP
47. induced investment	39.4	73	T
48. Adam Smith	38.1	82	H
49. theory of comparative advantages	33.3	53	T
50. stabilization policy (countercyclical policy)	27.1	62	I

ATTACHMENT 5 - (continued)

RANKING FOR RELEVANCE CRITERION

ITEMS	% OF YES RESPONSE	% OF RESPONSES FROM COMPLETE SAMPLE	CATE
1. inflation	98.6	95	SP
2. taxation	91.3	90	I
3. unions	90.7	70	I
4. role of government in the economy	89.1	94	I
5. balance of payments	88.1	77	T
6. progressive and regressive taxation	87.5	83	SP
7. national debt	86.7	89	I
8. scarcity	86.5	87	I
9. business cycles	86.5	87	T
10. investment and savings	86.1	94	T
11. economic growth	86.1	94	T
12. poverty	85.7	82	SP
13. monopoly power	85.5	81	SP
14. federal reserve system	85.5	90	I
15. money supply	85.5	90	I
16. international reserve shortage (the gold problem)	85.0	90	SP
17. unemployment	84.3	91	SP
18. impact of technology (alienation, unemployment)	84.1	82	SP
19. international trade	83.3	78	I
20. recession	82.3	89	SP
21. impact of unionization	82.3	67	SP
22. national income accounting (GNP, NNP, etc.)	81.9	94	T
23. allocation of resources	80.0	91	I
24. fiscal policy	79.4	88	I
25. wars and the allocation of resources	79.3	76	SP
26. capital formation	75.8	80	T
27. social imbalance (resource misallocation & conservation)	75.4	79	SP
28. open market operations	74.2	81	I
29. development of class society	74.1	65	H
30. theory of consumer demand (consumption function)	73.9	95	T
31. circular flow of income	73.6	94	T
32. distribution of income	73.2	94	SP
33. stabilization policy (countercyclical policy)	71.4	55	I
34. economic freedom, justice (races, nationality,etc)	71.1	68	SP
35. marginal propensity of consume (MPC)	68.1	90	T
36. discount rate	67.8	72	I
37. imperialism	67.4	55	SP
38. production possibilities curve	67.2	79	T
39. the historical process of industrialization	66.0	65	H
40. income determination (income theory)	62.7	87	T

ATTACHMENT 5 - (continued)

ITEMS	% OF YES RESPONSE	% OF RESPONSES FROM COMPLETE SAMPLE	CATEGORY
41. induced investment	61.8	71	T
42. power elite (social stratification, social immobility)	61.3	57	SP
43. multiplier	60.3	88	T
44. Karl Marx	58.5	53	H
45. household sector	58.2	72	I
46. ruling class control of government	56.5	57	I
47. theory of comparative advantages	53.7	54	T
48. accelerator principle	53.7	70	T
49. mercantilism	47.8	57	H
50. Adam Smith	46.7	78	H

STUDENT INTERVIEWS TO DETERMINE ATTITUDES ABOUT THE ECONOMICS IA-IB COURSE

By
Thomas M. Gerin

I INTRODUCTION

This study was undertaken in an effort to get some student reactions to the Economics IA and IB course which might be useful alone, but which would also provide a check on the data gathered from the questionnaire study. Essentially, I wanted to find out whether students thought any change was needed in the principles course and if so what they felt should be changed. I did not attempt to do an exhaustive study or to obtain any kind of representative sample of students.

II PROCEDURES

Four small groups of two to five students, chosen from classes taught by different professors, were interviewed and two classes were interviewed as whole classes. The interviews lasted for a half hour to forty-five minutes and were tape recorded. The interviews were informal and unstructured. Students were asked to respond to general questions such as "If you could change the course, what would you do to revise it?" The technique of asking a general question such as this was to try to start a discussion in the group being interviewed and to set up conditions which would encourage students to talk frankly about points which interested them most. Many times discussion of the initial question would lead the group to other topics which were related and this was the object of the technique. The only time the interviewer (the author) entered the discussion was to provide focus if students strayed from the objective or if discussion lagged.

III QUOTATIONS FROM THE INTERVIEWS

The following are quotations from some students which seem to exemplify the general responses that were given. Four of the groups will be used; these will be designated A, B, C, and D.

Group A

"I wish the instructor would tell us what we are supposed to know when we are finished with the course."

"I'd like to see more about how business uses what we are learning."

"We should learn the system we are under; after all that is the system that we live with."

"I am a history major and I would like a course that would be of more use to me. Maybe if the courses were divided into one for majors and another one for non-majors this might help."

Group B

"I'd like to know why we have to learn all those graphs. I don't see any use in them."

"I agree about that, but maybe the trouble is that I can't understand them. The instructor seems to assume too much when he starts to explain them."

"When something like this gold thing comes up, I wish we could spend time on it."

Group C

"I'd like to see the significance of what we're learning in reference to what is happening in our society today."

"I liked programmed instruction. I could go at my own rate, and I think I learned more this way."

Group D

"I think that if I took IB first I would have understood more of IA."

"I think that if you combined them (IA and IB) in a one semester course with just what was generally needed it would be better."

"The programmed instruction seemed to help me quite a bit. It seemed easier to learn, and I could understand more."

IV SUMMARY OF INTERVIEWS

The following attempts to summarize all of the basic points that came up consistently in all of the interviews:

1. Students wanted to know what the course would cover, i.e., its content and objectives. In other words, they wanted to know where they were going, and why they were headed in a particular direction by a particular route. They also wanted to know their responsibilities in terms of material covered and examinations. This feeling was almost unanimous among the students. They wanted definite boundaries and a rationale for the course.

2. The students believed that the course should teach U.S. capitalism because they felt that this is the system under which they are functioning. They thought that after a basic knowledge was developed of their system, other systems could be introduced. However, emphasis should be on the capitalistic system. They were definitely hostile to a neutral type of course. Another type of response in support of this conclusion was that the students kept saying they wanted to know more about business in the United States.

3. Students felt there was too much work with graphs in Econ IB. They did not see much use in marginal analysis. Further, they complained that in such work the instructors made an assumption that students had more prerequisite knowledge than was generally the case.

4. In IA, national income accounting was believed to be emphasized to too great an extent. They felt that what they needed could be covered more briefly and effectively. However, when asked what they thought they needed in this respect, they could not give specific responses.

5. The students expressed a strong desire to have current events discussed in class. They wanted the courses to be more flexible in order to provide enough time to go into any interesting events that occured during the semester. They wanted to discuss the economic reasons for and implications of those events.

6. The students believed that the objectives of the courses should be to a) enable them to make better judgments about the actions of government and b) aid them in decisions in their own lives. This second objective was somewhat nebulous, but the general idea I received was that they wanted to be better able to make business-oriented decisions.

7. The opinion was also expressed that the courses should be divided into two sections, one for majors and one for non-majors. The students who expressed this opinion felt that some of their suggested revisions could be met more easily if this were done, especially the reduced reliance on graphic analysis--this was one of the primary revisions.

8. The students had two prevalent ideas about changing the present sequence of courses. One group thought that IB should be taken before IA. The other group thought that possibly the courses could be combined into a one semester course, with possibly four or five units instead of 3 units. The feeling was that there was a lot of time wasted on material they did not believe necessary.

9. There were two classes interviewed that used programmed instruction, and it was also found that some of the other students in classes not using programs were somewhat familiar with this technique of learning. When asked their opinion of programmed instruction, most responded favorably. The only negative response was that the programmed instruction was too simple. However, this view was held by only a few students. It was generally felt that material was learned more easily in this form; for example, one student commented that he felt he could learn more and faster with this method. It is interesting that this particular student was not in a class that used a program but his roommate was, so he had been exposed to this form of instruction.

SUMMARY

In general the students want a course that is current and which includes the basic economic tools that will enable them to make intelligent decisions. They want the course to be structured with emphasis on this economic system and with less on graphic analysis and what they consider to be unnecessarily complicated tools of economics, more emphasis on the functioning of business and government controls.

A BRIEF ANALYSIS OF INTRODUCTORY PRINCIPLES OF ECONOMICS TEXTBOOKS

By
Fred Smith

I INTRODUCTION AND METHOD

This project was undertaken to gain some insights into the construction of textbooks written for introductory college economics courses. We wished to find out to what extent textbook authors tend to choose the same content and content organization. The procedure employed initially was to compare tables of contents of several major texts in search of a general pattern that might be followed by a majority of the authors. The books analyzed are listed in the bibliography at the end of this section. Research indicated that such a pattern did in fact exist. There are, however, variations in the titles of similar sections among the texts as well as variations in contents of sections having the same name.

The analysis showed a considerable degree of similarity between texts. Section 2 below gives a general table of contents which is a fair description of most of the texts studies. Section three summarizes the tables of contents of the texts and then describes the main ways each text differs from the general outline.

The general table of contents presented here should not be considered an ideal construction. It was derived from the major sections of each book and the contents of each section in an attempt to determine the actual coverage decisions of leading textbook authors--what topics the authors consider important for use in an introductory course and the order in which they should be presented. The most commonly occurring major topics were then arranged in their most prevalent order to arrive at this general table of contents. The topics were given rather general titles.

Some of the texts do not have a major topic which corresponds to those in the general table. On the other hand, some of the texts include sections that were not used. For example Wronski devotes one of his six sections to unions, giving it as much space as his treatment of production.

II. A GENERAL TABLE OF CONTENTS

The textbook analysis revealed a striking similarity in content selection and organization. The following outline of nine topics or major divisions describes a hypothetical table of contents which is closely followed by many writers.

I. History of American Economic Institutions

This topic was actually found in only one text. However, it is included here for two reasons. A great many schools offer an entire course in economic history of the United States either as a prerequisite to the principles course we are engaged in studying or as an upper-division course.

II. Economics as a Discipline

Most texts began with some type of introduction to economics discussing it as one of the social sciences defining it, and stating something about economic analysis. The relation between analysis and policy is almost always treated.

III. Introduction to Basic Concepts

A great many diverse topics are included in this section. Probably the most important are the treatments of demand, supply, and elasticity. Any other economic organizers may be introduced here. Among the widely used are the role of government, types of business organization, and economic efficiency.

IV. National Income Analysis

This is the section in which most of the macro-economic information is found. The most common items found here are national income accounting, saving, consumption and investment, income determination, the multiplier and accelerator, fluctuations, forecasting, employment, fiscal policy, and the public debt.

V. Money and Banking and Federal Reserve

Some authors, notably Samuelson, included these concepts in the previous section, but others separated them. I awarded them autonomy here because of my own interest in the field. At any rate, the basic characteristics of money are often used to lead into a discussion of money creation by banks and the influence of the Federal Reserve on the banking system. Changes in the price level and price indices might be added if they have not appeared in relation to national income analysis.

VI. Price System and Resource Allocation

This can best be described as the micro-economics section. The various market theories are presented in order from pure competition through pure monopoly. The price and output decisions in each case are compared to demonstrate differences in allocation of resources and efficiency. Antitrust may be included as well as the theories dealing with rent interest and profits, welfare, resource demand, and wage determination.

VII. Distribution of Income

The discussion of wages, rent, interest, profit, and demand for factors is continued (or initiated) in greater detail. A significant topic here is the functioning of unions. Taxation and public policy on income redistribution are usually in this section.

VIII. International Economics

Although this topic is almost always located near the end of the book and is given various names, it was included in every text which was examined. Exchange rates, comparative advantage, balance of payments, and underdeveloped countries are also common topics covered. Tariffs are more often mentioned than international agreements and institutions. Studies in comparative economic systems are squeezed into this section and examples of the system in action in some particular country may be added.

IX. Current Economic Problems

If problems related to foreign trade, comparative systems, or the challenge from the USSR are not included in section VIII, they will almost always be found here. The same is true for treatments of the U.S. balance-of-payments problem. The current problem most frequently examined centers on the conflict between the goals of a high rate of growth, high employment, and stable prices in the U.S.

III COMPARISON OF CONTENT AND CONTENT ORGANIZATION OF MAJOR PRINCIPLES TEXTS

This section gives a condensed picture of the relation of each text to the general table of contents described above. The analysis is summarized in Table I which begins with the general table of contents. Each succeeding column describes one of the books analyzed in this study--the column lists each book by the author's name and then gives the major topic headings from the Table of Contents. Except for long headings, the section headings are taken from the text. Under each topic the subtopics are also listed. You can compare content organization of each text with the organization of the general table of contents, because the roman numeral at the beginning of each section is the number of the corresponding section of the general table of contents. At times one section may cover most or all of teh subjects from more than one topic of the general table, and in these cases multiple roman numerals are shown.

The reader can get a rough idea of how much coverage an author devoted to each topic by comparing the classifications of topics in the chart. The percentage figures in the lower left corner of each box give the percentage of the total number of pages the author allotted to that topic. Thus, by using the roman numerals and the percentage figures authors can be compared with each other and with the general table of contents.[1]

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[1] The single exception to this technique is the Eggers & Tussing Book.

Table I

Comparison of Text Tables of Contents with the General Table of Contents

(Contents and % of pages devoted to Each Section)

GENERAL TABLE OF CONTENTS	ABBOTT	BACH
I History of American Economic Institutions	II Introduction Economics as a Science Basic Definitions Intro to Capitalism 6%	II Foundation of Economic Analysis Economics in the Modern World An Empirical Science Price System 6.5%
II Economics as A Discipline	III Markets & Prices Demand & Supply Market Mechanism Elasticity 11%	III National Income, Employment IV Economic Growth V Theory Production, Prices, Employment Consumption, Investment, Fluctuation & Forecasting Policy Stabilization Policy Money & Federal Reserve Monetary & Fiscal Policy Growth Policy in U.S. Underdeveloped Nations 38%
III Introduction To Basic Concepts	IV Macro Economics V Business Fluctuations Unemployment Price Level Public Finance Business Organization National Income Analysis Growth & Development Money & Banking Federal Reserve Monetary & Fiscal Policy Problems 34%	
IV National Income Analysis (Macro)		VI Markets, Price System, and Allocation of Resources Business Organization Demand & Supply Decisions Under Various Market Structures Government & Business 23%
V Money and Banking Federal Reserve	VI Micro Economics Definitions Decisions under Various Market Situations Antitrust Public Utilities 17%	
VI Price System and Resource Allocation (Micro)		VII Distribution of Income Pricing of Services Wages & Salaries, Unions Poverty Rent, Interest, Profits Capital 12%
VII Distribution of Income	VII Distribution of Wages, Rent Interest Profits Unions Taxation Public Policy on Income Inequality 19%	Public Sector Functions Expenditures Taxation 6%
VIII International Economics		VIII International Economy Trade & Lending Balance of Payments Tariffs Gold & Current Problems 8%
IX Current Economic Problems	VIII The World International Trade & Finance Underdeveloped Nations Other Economic Systems 13%	Perspectives on Economic Change Economic Change Comparative Systems Mixed Economies 6.5%

KEISER	LIPSEY & STEINER	McCONNELL
II Meaning of Economics The Economic Problem Cultural Variations In Solutions 8%	II Scope and Method Economics as a Social Science Theoretical & Statistical Analysis 9%	II III Intro to American Capitalism Nature of Economics Circular Flow of Wealth Supply and Demand Price System Government in Mixed Capitalism Households, Business, and 22% Government
III Introduction to Production & Allocation Demand and Supply Degrees of Competition & Economic Efficiency Production Business 13% Organization	II Price System Demand & Supply (Elasticity) Price Controls & Taxes Elements of Dynamics 11%	IV National Income, Employment Fiscal Policy National Income Accounting Business Cycles Tools of Employment Theory Output, Employment, & Income Fiscal Policy Public Debt 16%
V Exchange Money and Banking Federal Reserve Policy 6%	III Demand Household Behavior 4% Theory of Demand	V Money, Monetary Policy & Stability Money, Banking Creation of Money Federal Reserve 8%
IV Production National Income Analysis Consumption Saving & Investment Business Cycles Income & Employment Fiscal Policy & Debt Inflation & Price Level Growth 31% Role of Government	III Supply Business Organization Technique of Production 9% Long Run Analysis	American Economic Growth Defining Growth Costs Problems & Policies 6%
VI Allocation of Resources Supply & Demand (Elasticity) Equilibrium Under Various Market 11% Structures	IV Market Price Theory of Price Decisions Under Various Market STructures Price Discrimination Criticism of Price 13% Theory	VI Firm & Resource Allocation VII Supply & Demand (Elasticity) Consumer Behavior Costs of Production Decisions under Various Market Structures Resource Demand Wages, Rent, Interest, & Profits General Equilibrium 26%
VII Distribution of Inco Income Wages, Rent, Interest Profits The Laborer Unions The Farmer Industrial Concentration Antitrust 24%	VII Distribution Factor Pricing Unions Interest & Profit 12% Criticisms	IX Domestic Economic Problems Antitrust Farm Problem Unions Income Inequality Social Imbalance (Public & Private Goods) 12%
VIII International Economics Problems Foreign Trade Alternative Systems Russia, Britain 7% Creeping Socialism	VIII International Trade Exchange Rates Gains from Trade 7% Tariffs Problems	VIII International Economics Trade & Equilibrium Reconstruction of Trade Underdeveloped Nations Challenge of USSR 10%
	Economy as a Whole General Equilibrium Micro & Macro 6% Discussed	
	IV Circular Flow Model in Equilibrium Household Consumption Saving & Investment Fluctuations Foreign Trade 14% Government	
	V Money, Banking, & Prices Banks & Supply of Money Demand for Money 7% Price Level	
	Growth & Development Growth Underdeveloped Countries 4%	
	IX Current Macro Problems Employment, Prices Growth 4% Balance of Payments	

EGGERS & TUSSING	FELLNER	HAMBERG
INTRODUCTION	TYPES OF ANALYSIS & EARLY SCHOOLS	I NATURE & DEVELOPMENT OF AMERICAN ECON. INSTITUTIONS
Economics as a Study Economic Change Statistics 14%	Deduction & Induction Mercantilism Physiocrats 11%	Business Enterprise Agriculture & Labor Prosperity & Depression 8% Employment & Growth
MARGINALISM	CLASSICAL SCHOOL	IV NATIONAL INCOME ACCOUNTING
Theory of Choice 6%	Wages Population Rent Full Employment Development Value Theory Free Trade Marxian Socialism 21%	Product Accounts Full Employment GNP, Growth, & Their Determinants Multiplier Governments's Role Investment & GNP 26%
DEMAND & SUPPLY		
Changes in Conditions Income as a Determinant of Demand Elasticity 10%		
OUTPUT	NEOCLASSICAL AND CONTEMPORARY ECONOMICS	V MONETARY AND FISCAL POLICY
Price Structure and Pay Rates Composition of Output Changes in Productive Method 13%	Theory of Consumer Choice Indifference Curves Pricing of Output Market Structures Factor Prices Income Distribution	Money in the Economy Federal Reserve and Monetary Policy Fiscal Policy and Stabilization Economic Growth and National Debt 18%
SERVICES		VI PRICE SYSTEM AND ALLOCATION
8%		Supply and Demand Production Function Decisions Under Various Market Structures Price Mechanism and Allocation Profits and Welfare Size, Efficiency, and Research in Monopoly and Competition 30%
ADJUSTMENTS TO CHANGE		
6%		
GOVERNMENT		
7%		
INTERNATIONAL TRADE	MACROECONOMICS	VII DISTRIBUTION OF INCOME
20%	Output Determination Saving-Investment Framework Dynamic Factors Cyclical Disturbances 21%	Factor Incomes Personal Income Distribution 7%
MARKET ECONOMY	POLICY	VIII INTERNATIONAL TRADE AND COMMERCIAL POLICY
11%	Monopoly Full Employment Inflation Redistributive Policy International Economic Policy 18%	11%
UNDERDEVELOPED NATIONS		
5%		

PETERSON	REYNOLDS	SAMUELSON
II THE ECONOMY AS A WHOLE	II INTRODUCTION	II BASIC CONCEPTS AND NATIONAL III INCOME
III A Field of Study Tools & Vocabulary Production National Output & Income Problems 12%	III What is Economics About Business Organization Market System Planning Demand & Supply 14%	Introduction Problems of Each Society Mixed Capitalism Demand & Supply Business Organization Poverty Labor Unions Government Finance National Income and Product 25%
PRODUCTIVE POWER	IV PRICES AND MARKETS	IV NATIONAL INCOME AND V ITS FLUCTUATIONS
Resources Capital Formation Business Organization 14%	VII Households Production Costs Decisions Under Various Market Structures Wages, Rent, Interest, Profit Capital Efficiency General Equilibrium 23%	Saving, Consumption, and Investment Income Determination Multiplier Cycles & Forecasting Money & Banking Federal Reserve Synthesis of Monetary & Income Analysis Fiscal Policy 21%
V MONEY	VII GOVERNMENT AND THE MARKET ECONOMY	VI COMPOSITION AND PRICING OF NATIONAL OUTPUT
Banks & Money Supply Value of Money International Payments Demand & the Depression Business Cycles Idle Resources & Public Policy 21%	Restricting & Promoting Competition Labor Markets Income Distribution Public Finance International Economy 17%	Demand & Supply (Elasticity) Utility Decisions Under Various Market Structures Antitrust 19%
VI PRICES & ECONOMIC ORGANIZATION	IV INCOME & EMPLOYMENT	VII DISTRIBUTION OF INCOME
Supply & Demand Cost & Industry Size Output from Capacity Monopoly Antitrust in the U.S. 24%	National Income Accounting Taxation Fiscal Policy Supply of Money Monetary Policy Business Fluctuations Internal & External Stability 26%	Production Functions Marginal Product Rent Wages & Unions Interest & Capital Profits & Incentives Epilogue to Micro Pricing 14%
VII DISTRIBUTION OF INCOME	GROWTH	VIII INTERNATIONAL TRADE AND FINANCE
Inequality Wages & Unions Rent, Capital, Interest & Profits Redistribution Policy 18%	Theories Western Growth Growth in the USSR Underdeveloped Nation Policies Development and the American Interest 20%	Foreign Exchange & Trade Balance & Capital Flows Tariffs Problems 10%
FURTHER GOVERNMENT ACTION		IX CURRENT ECONOMIC PROBLEMS
Taxation & Borrowing International Policy Capitalism & Collectivism 11%		Growth and Development Stability for Advanced Economies Comparative Systems

ULMER	WRONSKI
II FOUNDATIONS Nature of Economics Basic Problems & Concepts Role of Government 3%	II INTRODUCTION III Nature of Economics National Product & Income Business Cycles 14%
III INCOME AND GROWTH National Income, Price Indices Growth & Welfare Labor Force Capital & Technology 11%	CONSUMPTION Consumers Money Management 13%
FINANCIAL ORGANIZATION OF SOCIETY Business Organization Consumer Finance Social Security Public Finance 10%	PRODUCTION Price System Labor Natural Resources Capital Business Organization Corporate Securities 27%
V MONEY AND BANKING Money Supply of Money Control of Money 6%	
IV PROSPERITY & DEPRESSION Consumption, Saving, & Investment Income Determination Cycles & Forecasting Monetary Policy Fiscal Policy	V MONEY AND BANKING Nature of Money Money in our Economy Federal Reserve 13%
VI PRICES & PRODUCTION Demand & Supply Equilibrium Decisions Under Various Market Structures Public Policy Agriculture 18%	UNIONS Growth of Unions Role of Unions 12%
VIII THE WORLD ECONOMY International Trade & Finance Economic Policy 8%	
VII DISTRIBUTION OF INCOME Theory of Factor Prices Unions Rent, Interest, Profits General Equilibrium 17%	IX PERSISTENT PROBLEMS IN OUR ECONOMY Government Regulations Government Debt Revenue & Expenditures International Trade Farm Problem Soviet Challenge 21%
VIII COMPARATIVE SYSTEMS Underdeveloped Nations Capitalism, Socialism, & Communism 6%	

THE INDIVIDUAL TEXTS

The textbooks will be examined in this section. Comments will relate chiefly to the author's departure from the general table of contents. The personal evaluations of this writer are included in certain instances, and of course should be considered apart from the other data. The text author's name will be used to identify each text.

Lawrence Abbott. Abbott does not concern the reader with any historic information, but begins with an introduction to economics that includes basic definitions and stresses capitalism. He then organizes the text similarly to our general table with the single exception that he sandwiches in current problems along the way rather than bringing them up in a separate section.

George L. Bach. Bach's introductory section is slightly unusual because of his discussion of "Economics in the Modern World." The macro-economic information is divided into three sections: theory, policy, and growth. A typical presentation of money and banking and the Federal Reserve System is done in the policy section. The role of economic growth in the United States and underdeveloped nations is fully developed. The author provides a separate selection on government expenditures and taxation. He considers the balance of payments problem in his treatment of international economics and covers comparative economic systems in a section devoted to economic change.

M.A. Eggers & A. D. Tussing. This was one of the more difficult books to fit into the scheme of things. To do so at all required a closer than normal analysis of the twenty chapter titles. Eggers & Tussing began with several chapters that fit rather well into our Section II and followed it with a presentation of demand and supply. At this point the similarity fades. There are no sections on micro and macro-economics. The term GNP is not even mentioned in the index. Only the treatment of international trade and underdeveloped countries seems to fit our program; however, the authors include chapters on the movement of services and administration in a market economy.

William Fellner. Fellner is another author whose book does not conform to the general table employed here, and necessarily so, because of his unusual historical approach. He devotes the first third of his book to an analysis based on history of doctrine instead of economic institutions. Beginning with information on deductive and inductive analysis, Fellner then moves through the mercantilists and the physiocrats. His second section covers the classical school on wages, population, diminishing returns, rent, full employment, development, value theory, and free trade with an additional section on Marxist socialism. This is followed by a neo-classical and contemporary presentation that covers our sections of micro-economics and income distribution. At this point macro-economics is treated, and the text ends with a section on policy related to monopoly, full employment, and international economics.

I was very impressed with this approach. After completing such a program, the student would have a clear idea of the historical significance of each part of our theory. It is quite difficult to differentiate between Keynes and the neo classicists when one is not aware when and how each part of the contemporary theory he has learned was developed. A course with Fellner's text would not tend to leave one in such a position.

Daniel Hamberg. Hamberg is the only author here who uses history of American economic institutions as an introduction. He then skips ahead of our outline to a national income accounting (macro) section followed by his money and banking presentation which includes fiscal policy. There is no separation of current economic problems, but the rest of the book follows the general table. The notions of demand, supply, and elasticity, which were skipped in the early part of the book, are found in the micro-economic section.

Norman F. Keiser. Keiser does not use an historical introduction nor does he separate out current economic problems. Instead historical and current problems are integrated throughout the text. Keiser follows the general table closely with the single exception of placing the monetary section ahead of, rather than behind, the national income analysis.

R. G. Lipsey & P. O. Steiner. These authors also skip any use of history in favor of a more normal introduction as in our Section II. Roughly 50% of the book is taken up with various aspects of market operation: demand, supply, market price determination in product, factor and international markets. A discussion of micro and macro and general equilibrium precedes a comprehensive section on circular flow which introduces the national income analysis scheme. This is followed by a typical money and banking section. Growth and development is included just ahead of current problems of macro theory. Lipsey & Steiner made their biggest departure by placing such emphasis on micro theory, in presenting macro-economics late in the text and basing that section so heavily on the circular flow model.

Campbell R. McConnell. McConnell's introduction includes our Section II and some of the topics of Section III, but they are not treated in detail. He then develops a macro segment which is followed by money and monetary policy. Growth is discussed before a typical micro-economics section. Domestic economic problems precede the final topic of international economics. Income inequality appears as a sub-topic of economic problems and income distribution is not presented separately.

Shorey Peterson. Peterson's first segment deals with the first four sections of the general table. He then discusses the productive power of capitalism before the monetary facts are used. The micro-economics which follow are not the usual theoretical constructions. Distribution of income precedes the topic of government action and the government policy section covers tax policy, international trade, and a brief discussion of the differences between capitalism and collectivism.

Lloyd Reynolds. After a somewhat standard introductory section concerned with economics and basic definitions, Reynolds goes into a microeconomic presentation which emphasizes long-run market outcomes. This is followed by a discussion of government in the market economy which also introduces the idea of income distribution. This coverage of macroeconomic theory follows with most of the remainder of the text devoted to economic growth. The unusual feature of this book is that it presents micro-economics ahead of macro-economics.

Paul A. Samuelson. This classic among introductory texts should be a good guide as to the worth of our general table. It is apparently favorable since we concur on most points. Samuelson uses no historical introduction and combines our Sections II and III before he completes the text in a manner similar to the general table. The single exception is that demand and supply are treated lightly in the early stages of the text.

Melville J. Ulmer. Ulmer's first three sections are largely the typical orientation material for the beginning student. He, like Keiser, then inserts money and banking ahead of the macro, micro, and distribution of income sections. Finally the author divides his international economics unit giving separate emphasis to comparative systems.

Stanley P. Wronski, et. al. Like Peterson, Wronski's opening topic covers the first four segments of the general table. There is no real micro-economic presentation; instead the author describes consumption and consumer decisions, then production and production decisions, and finally a more standard presentation of money and banking. The fifth of his six major topics is devoted to unions, and the book ends with a section on some of our economy's problems.

FOUNDATION OF MODERN ECONOMICS SERIES (Prentice-Hall Publishers)

Since 1964 the Prentice-Hall *Foundation of Modern Economics Series* of nearly a dozen paperback books edited by Otto Eckstein has been available. Each book is a survey of a branch of economics and the entire series covers the discipline. I examined the series to determine its value as a supplement or replacement for a standard textbook. Each volume of the series was compared with the corresponding sections of the Samuelson text.

The main difference appears immediately when one attempts such a comparison. Most areas of study cannot be dealt with rigorously in an introductory course. The time for presenting information is limited, forcing the instructor and textbook author to do little more than mention a branch of economics when he can tie it into his theoretical discussions, or perhaps devote a short section to a very brief introduction to the principles of that area.

As a result, it is hard to compare sections of Samuelson's text with such books as Gregory Grossman's *Economic Systems* or Otto Eckstein's *Public Finance* since Samuelson does not emphasize public finance and because he devotes only twenty pages to alternative economic systems. Even these twenty pages are directed largely at a justification for our own brand of economics rather than offering an introduction to the theory of economic systems.

For this reason I included only three books in this analysis, those which cover the major fields also covered in detail by Samuelson. If it can be shown that this series could replace Samuelson in the teaching of this basic material, then an instructor could assign books from the series as a text, thereby providing students with standard theory references, at the same time branching into other branches of economics which usually are treated superficially in a standard text.

The first two books contain the analytic core of our discipline: Robert Dorfman's *Prices and Markets* and *National Income Analysis* by Charles Schultze. The third, James Duesenberry's *Money and Credit: Impact and Control*, covers an area to which most modern texts devote an entire section.

Schultze. Perhaps the first comparison should be made with an eye to the space devoted to the area. Samuelson uses about 115 pages not including certain sections on money and inflation and growth while the Schultze book is 140 pages long. However Samuelson has nearly 25% more words per page, as shown by rough estimates, and includes a greater number of charts and graphs. Schultze does not seem to include any topics that Samuelson leaves out. However, Samuelson presents some concepts such as growth and the introductory statements, in other sections of his text which suggests that Samuelson may devote more space directly to National Income concepts. At least, it is the impression of this writer that Samuelson provides more background information and treats the subject matter in somewhat greater detail. However, forecasting is the only area Schultze does not stress which Samuelson presents.

Dorfman. At first glance it would seem that both authors devote the same amount of space (nearly 150 pages) to price theory; however, Samuelson includes a discussion of the production function and iso-quant analysis in a later section. Thus, considering the greater numbers of words per page Samuelson devotes more space than Dorfman. However, Dorfman includes some additional analysis. He shows the production function as a three dimensional form or "production hill" and demonstrates that iso-quants represent "altitude contours" of the production hill. Such a presentation better prepares the student for an advanced analysis and as well offers a simplified version of the material. It prevents the student from thinking of the analysis as two-dimensional. An additional departure from the norm is Dorfman's use of game theory in relation to oligopoly solutions instead of relying on Sweezy's kinked demand curve.

It is this writer's opinion that the Dorfman book is not only an adequate substitute for Samuelson's price theory section, but may actually be preferable to it. Dorfman has gone beyond the mere presentation of the standard introductory material and provides serious students with more complete and up-to-date analytical tools.

Duesenberry. Samuelson devotes approximately 80 pages to money, the Federal Reserve, and monetary policy while Duesenberry's book is over 110 pages. However, both approaches to the material are similar, consisting of some preliminary comments about the nature of money, leading to deposit creation, followed by a section on the Federal Reserve System. At some stage of the analysis other financial institutions and action in the capital markets are shown and an analysis of monetary policy as it fits into total stabilization is developed.

IV CONCLUSIONS

This study was undertaken to determine if there is in fact some order of presentation of material that is predominant among introductory economic texts. After construction of the general table of contents and a comparing of a number of books to it, this writer concludes that many authors have indeed followed some standard pattern of presentation. The standard seemed typified by Paul Samuelson, who's introductory text is usually regarded as the frontrunner in the field. Thus, it would seem logical to conclude that the pattern may not be due to necessity but rather to Professor Samuelson's leadership and, perhaps, to the nature of product competition in the textbook market.

Two of the most impressive texts were written by Fellner and Lipsey & Steiner. Both books took a somewhat different approach. Fellner developed the principles of economics which seemed to parallel a history of economic thought course but yet offered more to the student. Lipsey & Steiner offered some up-to-date criticisms of and additions to theory which were not found elsewhere. Three books from the Prentice-Hall, *Foundations of Modern Economics Series* were found to be stand-ins for corresponding sections of Samuelson. Professor Dorfman's contribution to the series was superior in the opinion of this writer. The use of these materials enable the instructor to vary the structure of his course, at the same time that he provides the necessary tools, concepts, and organizers of economic theory.

PROGRAMMED INSTRUCTION: ITS NATURE AND AN ANALYSIS OF TWO PROGRAMS DESIGNED FOR THE BASIC ECONOMICS COURSE

By
Thurlow Scott

As the demand for higher education rises and college enrollment steadily increases, the need for more efficient learning also increases. An innovation that has received much attention and which is designed to help solve this problem is programmed instruction. The basic reason for the high level of interest in programmed instruction is that, once the student is motivated, the inherent structure of programming guarantees a high degree of student success in learning. It is because of its unique characteristics that programmed instruction often is superior to teaching strategies employed in conventional textbook learning.

Part I of this paper will explain the superiority of programmed instruction for some purposes over strategies using a text and lecture method by (1) defining and describing the characteristics of programmed instruction and showing the relationship between programmed learning and the achievement of behavioral objectives; (2) describing the uses of programmed instruction as a teaching strategy; (3) providing a rationale for the use of programmed instruction in the total thinking-learning process; (4) contrasting the programmed instruction method with learning from an ordinary textbook and lecture situation.

The second part of the paper analyzes two programmed instruction books currently used in principles of economics courses. This is an exercise which should show the reader how to evaluate programmed instruction for use in teaching.

I THE CHARACTERISTICS AND ADVANTAGES OF PROGRAMMED INSTRUCTION

PROGRAMMED INSTRUCTION DEFINED

The layman may often be confused in trying to distinguish between the terms used to describe programmed instruction. These include the "program," "teaching machines," or simply the "program holder". Specifically, the term "program" refers to the content and organization of material or task to be learned.[1] The term "teaching machine," in general, refers to some mechanical device used to present the material. The term "program holder" can refer to either a programmed book, or to the simplest of teaching machines, such as those made of cardboard. To be classified under the heading of programmed instruction the material must display four common characteristics: (1) information must be presented in a form which requires frequent responses from the learner; (2) immediate feedback is provided informing the learner whether the response was appropriate; (3) the learner is allowed to work independently and adjust his rate of progress to his capabilities; (4) the program is designed to permit the learner to meet specific, measurable learning objectives.

Educational Objectives & Programmed Instruction. The basic structure of a program is determined largely by the educational objectives it is designed to meet. A distinguishing characteristic of programs is that they are designed to bring about specific and stated behavioral changes in the learner upon completion of the programmed learning experience.[2] In addition, the changes must be measureable so that the instructor and the student can determine whether the program permits students to meet the stated objectives. The objectives must state what the learner is expected to be doing and how well he is expected to perform at the end of a learning experience. For example, a statement that the learner should be able to run a distance of one mile in a period of five minutes under certain conditions, would be a statement which establishes the objective and sets the measurement criterion.

Stating educational objectives in terms of observable student performance is important for two reasons. The measurement criteria can then serve a dual purpose. First, it serves in evaluating the progress of the learner.

> ---unless goals are clearly and firmly fixed in the minds of both parties, (instructor and student) tests are at best misleading; at worst, they are irrelevant, unfair, or useless. To be useful they must measure performance in terms of the goals.[3]

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[1] David Cram, Explaining "Teaching Machines" and Programming, p.7.

[2] Robert F. Mager, Preparing Instructional Objectives, p. 3.

[3] Ibid., p. 4.

Where review tests are provided in the self-instructional program, the learner can evaluate his own progress and direct his own efforts in acquiring the desired skills. Second, behavioral objectives can help the programmer evaluate the effectiveness of the program in permitting the student to achieve the original objectives of the course.

PROGRAMMED INSTRUCTION FORMAT AND DESIGN CHARACTERISTICS

The Learning Cycle. While the presentation of a program is often found in book form many other media may be used. These include films, television, or computers. Whatever the media used, all programs must display the characteristics described above. The essence of the method and the common characteristic of all programs is that they are based on the learning cycle.[1] The learning cycle starts with the presentation of a small amount of material in the form of a frame upon which the learner focuses his attention. Secondly, the learner is required to make a response to the material presented. This means that the learner is actively participating in the completion of some task in every frame of material presented. Finally, the learner is given immediate feedback as to the correctness of the response, or to the results in the completion of a given task. In addition, the learner is allowed to proceed at his own pace, taking as little or as much time as individual abilities might require.

Programmed Instruction as Cybernetic Systems. A program is a cybernetic learning system, which means it is an automatic self-regulating system designed to perform some function, and it has four essential components. These are the standard, process, measurement, and feedback components. The standard is the goal, stated in terms of measurable performance as the behavioral objectives that are to be achieved by the student. The process component are the means that are employed in reaching the objective, the learner's use of the frames of material. The measurement device is the decision making component of the cybernetic system and in the case of a program is the comparison of the student's response to a frame and the correct answer which is given in the program. The connecting feedback loop, or steering mechanism, describes what the student does with this information about the correctness of his answer. The student uses this feedback information to adjust his learning to insure that the intended goal or objective will be reached. Thus, the feedback component is a vital component in the system because it can provide a continuous testing of the progress of the learner and it steers the learning process to permit the learner to achieve stated goals. In diagram form the cybernetic learning system will look like this:

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[1] Paul I. Jacobs, Milton H. Maier, Lawrence M. Stolurow, A Guide to Evaluating Self-Instructional Programs, p.4.

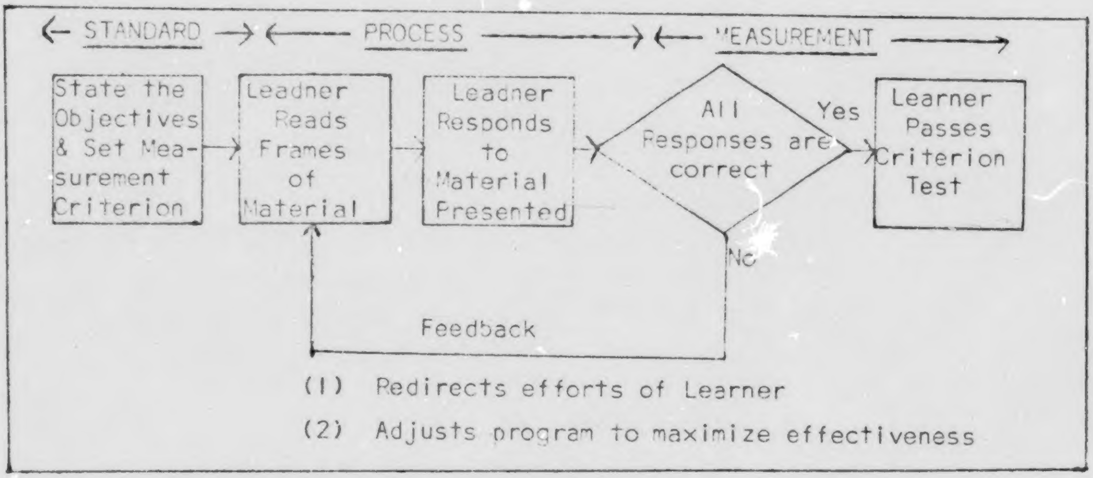
STANDARD
PROCESS
MEASUREMENT
State the Objectives & Set Measurement Criterion
Leadner Reads Frames of Material
Leadner Responds to Material Presented
All Responses are correct
Yes
No
Learner Passes Criterion Test
Feedback
(1) Redirects efforts of Learner
(2) Adjusts program to maximize effectiveness

Figure 1: Model of a Program as a Cybernetic System

Program Design & Construction. There are certain technical requirements in the design and construction of a program. Program construction begins with the development of behavioral objectives.[1] The objectives must be stated in behavioral terms and a criteria test must be developed that will measure the effectiveness of the program. Second, the material to be learned must be sequenced and broken into frames. This careful sequencing of learning in small steps creates a learning environment in which the learner can succeed. Third, the actual frames of material are constructed that require a response from the learner. Fourth, the program must be tried out and revised on the basis of feedback until a representative sample of learners reach the criterion level of performance on the criterion test. Finally, the program must be validated to determine how much the student is learning from it. A standardized test or one designed specifically for the program might be used for this purpose. Thus, the process of program construction is a cybernetic system.

There are several advantages not found in the ordinary textbook learning situation to constructing learning experiences in this rigorous manner. First, the student has a clear understanding of the educational objectives and can direct his own behavior toward attaining the objectives. Second, programs use a learning cycle to facilitate learning. In addition, instant feedback is provided to indicate whether or not the learner is able to grasp the concept or complete the task. Third, there is evidence to indicate that the speed of learning is more rapid in programmed instruction.[1] This is often the case because all of the superfluous material found in a text has been removed from a program. Finally, with the careful revisions of the frames and the setting of criterion testing, a high degree of success is guaranteed for the motivated student.

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[1] A Guide to Evaluating Self-Instructional Programs, p. 10.

TYPES OF PROGRAMS

In designing programs two main alternative styles or formats are commonly used: *linear programming* and *branching programming*. Each is based upon different teaching philosophies.[2]

The linear style is based on a learning theory developed by Dr. B. F. Skinner, a Harvard Universtiy psychologist, who considers as essential short steps between sequential frames which permit the learner to develop a constructed response.[3] A linear program may look like this:

Programmed instruction requires a response from the ______________ to make it operate.	student
As soon as the student ________________ the correct answer is revealed.	responds

Thus, in a series of frames the learner is conditioned to respond in an appropriate manner through short steps designed to elicit a correct response. The short steps minimize the occurence of an incorrect response which might occur during a learning experience and give the student adequate practice and reinforcement of new learning.

With the branching style of programming, it is assumed that students can learn from their own mistakes. This style is based on the learning theory developed by Dr. Norman A. Crowder, an industrial psychologist. In branching programs the frames permit the student to make an alternative choice in response to a frame of material.[4] When a correct response is made the learner continues along the mainstream of material, in relatively large steps, with no interruptions. However, when the student makes an incorrect choice, the learner is branched away from the mainstream of ideas to a remedial step, or steps, which are intended to clear up any misunderstanding about the material. The assumption made in this learning theory is that the learner, in making a wrong response, is not hindered from learning the correct response. In addition, the type of response made serves as a guide in getting the learner through the program. In a sense, it tells the program where the learner should be taken next.[1]

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[1] *Ibid.*, p. 39.

[2] David Cram, *op. cit.*

[3] Burrbus Fredric Skinner, "The Science of Learning and the Art of Teaching", *Harvard Education Revue*, 1954, 24, 86-97.

[4] Ctn. Norman A. Crowder and Grace C. Martin, *Adventures in Algebra*

Whether one style of programming has superiority over the other has not been proven. However, since effective learning has been observed in both cases, the learning situation and the preference of the programmer will determine the style of programming to be used.

THE USES AND EFFECTIVENESS OF PROGRAMMED INSTRUCTION

There are many functions that programmed instruction can serve in a total instructional strategy. Programs are not ordinarily designed to form values or to shape attitudes. However, they can be effectively used in other areas. Certain kinds of learning may be better suited for the programmed instruction method; for example, in teaching facts, concepts, or skills the programmed approach is generally effective. Studies show that programs work for almost any group of learners. Variables such as age, ability level of the learner, previous educational background, do not effect the level of success attainable in programmed instruction.[2]

Programmed instruction provides more flexibility in teaching and learning.[3] As a self-instructional method it can be used where a teacher is not available, but it is generally more effective when students have both programs and teachers.[4] The method can be used to teach an entire course or to help reinforce the teaching of certain elements of a course. It can be used in conjunction with conventional teaching methods. Programs can be assigned to the entire class, to certain groups or to individuals within the class. They can be used as enrichment or as remedial material. There are many uses of programmed instruction if the instructor is willing to legitimize the method in "those basic learnings that can be carefully programmed." Use of the method for certain kinds of learning can then "free the human teachers for those instructional tasks that are truly human."[5]

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[1] David Cram, p. 59.

[2] *Ibid*. p. 20.

[3] *Ibid*., p. 18.

[4] *Ibid*., p. 19.

[5] Dr. John I. Goodland, "...humanize the means of instruction.", *CTA Journal*, Mar. 1968, p. 23.

Some additional insights about the nature of programmed instruction can be gained by relating programmed learning to the model of learning and thinking developed by J. Richard Suchman and described earlier in the study by Wada and Kobashi.[1] First, programmed instruction strategies tend to rely on cognitive motivation rather than social ego motivation. This is because students soon realize they can learn and they can work and take the test at their own pace. Second, in programmed learning there is constant interaction between the student and the program. The student does not passively take in and store data; he must participate actively in the learning process. Third, programs are goal oriented and are intended to help the student gain specific knowledge or skills. Therefore, the program controls the intake to a greater extent than does the text. In this sense it is more didactic than the usual text learning situation. Because programs make systematic and repeated use of the learning cycle, learning is made more efficient. Finally, even though the formal program controls the learning situation, the learner retains some control over the environment because he can proceed at his own pace. If the program is a branching program, then the student's learning path is determined by his own learning problems.

COMPARISON OF PROGRAMMED INSTRUCTION AND REGULAR TEXT

Learning through programmed instruction and the textbook situation are quite different. First, texts are not written according to rigorous specification as are programmed instruction books. For example, texts are not written to help student achieve specific behavioral objectives. Therefore, a text may contain a lot of unnecessary information which may make it difficult for the learner to know what to learn. Second, the learning sequence in a text is not designed as a learning cycle, but instead is a narrative. Very often texts are organized into lengthy chapters and often the author does not adequately indicate the interrelationships of ideas learned in different chapters. In a program, on the other hand, the included information is limited much more to that which will help the student achieve the behavioral objectives. Non-essential information and topics are excluded and the interrelations between previously learned ideas or tasks are carefully pointed out. Third, a text author does not write in learning steps based on knowledge of the student's individual learning problem; instead the author usually is primarily interested in building a logical argument. Fourth, usually texts do not demand any active student response. Students are only required to read the text and only good students tend to read reflectively. Fifth, texts are not tested on student populations and validated. If they are tried out, the author has no criteria for measuring success if there are no student learning objectives. Lack of a learning cycle and student responses frame-by-frame means that the author can only guess as to how to correct the problem.

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[1] See page 42 of this report.

II ANALYSIS OF TWO PROGRAMMED INSTRUCTION BOOKS

MEASURING LEARNING

This part of the paper will analyze the learning cycle of two programmed instruction books. Several sections of each book will be analyzed to see if they are constructed so as to lead to the learning of specified behavioral objectives. This exercise should help the reader learn more about programming, and at the same time demonstrate how to evaluate programs for possible use.

As an aid in analyzing the learning tasks required of students in a program, I used the cognitive tasks classification set forth in S. Bloom's, *Taxonomy of Educational Objectives.*[1] This classification divides learning into several categories according to the level of difficulty of the cognitive task. For example, the lowest level task is learning knowledge: memory, retention, recall, etc. This knowledge is categorized according to degree of difficulty such as: knowledge of specifics, of terminology, of specific facts, of ways and means of dealing with specifics, of conventions, of trends, of sequences, of classifications and categories, knowledge of criteria, of methodology, of the universals and abstractions in a field, of principles and generalizations, and knowledge of theories and structures. Higher levels of cognitive tasks can also be categorized by degree of difficulty and they are given the following ordering by Bloom: comprehension, translation, interpretation, extrapolation, application, analysis, synthesis, and evaluation.

Simpler adaptation of Bloom's taxonomy was adopted for use in analyzing the level of skills being developed in the two programs analyzed. Seven categories were used:

1.0 not a specific knowledge item. (described in footnote)[2]

1.1 *Knowledge of specifics.* This category included definitions, simple distinctions and elementary factual knowledge. Example:
  1. Alternative cost is: a,b,c,d.

1.2 *Knowledge of ways and means of dealing with specifics.* This category was used for criteria, classification, conventional procedures, distinctions, and sequences. Example:
  1. A frequent source of difficulty for students learning about demand is the important distinction between demand and quantity demanded. The amount buyers will purchase of a commodity at a particular price is: a,b,c,d.

1.3 *Knowledge of the universals and abstractions in a field.* Knowledge questions relating to major concepts and generalizations were put in this category. Example:
  1. In summarizing the Law of Demand: When price increases the quantity demanded of the commodity will: a,b,c,d.

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[1] Benjamin S. Bloom, ed., *Taxonomy of Educational Objectives*, Handbook I: *Cognitive Domain.*

[2] It was found in attempting to categorize some items that a frame was often used merely to identify certain charts and graphs. (e.g., the following demand schedule is from the week of __________. Answer - June 2-8. Therefore, this type of frame will be categorized under the 1.0 classification.)

The skill items selected to measure the types of abilities that might be developed are:

2.1 Translation. Verbal expression of a message given in a diagram was included in this category, as well as less complex problems of comprehension.
Examples:
1. The inside arrow represents: a,b,c,d.
2. Plot the demand schedule on the graph below.

2.2 Interpretation. The student is required to make some sort of judgement, or he had to recall information and use it to comprehend a problem. Included were instances where the student had to: (1) judge which instance best meets criteria; (2) decide if an example is an instance of an economic concept; (3) determine whether a situation manifests an economic quality; (4) identify the broadest definition of a concept; (5) show comprehension of a concept by discriminating from an example, aspects of the concept.

3.0 Application. This type of problem involved problem solving with no formula provided.
Example:
1. Using the demand and supply schedule below determine the equilibrium price of the commodity.

COMPARISON OF TWO PROGRAMMED BOOKS USED IN ECONOMICS

With the aid of the criteria established above, an analysis of two books currently used in economics will be made.[1] The analysis will describe the cognitive tasks required of the students in the two programs. First, a general description of the two books will be given to describe content organization, programming style, the use of review frames, criterion tests, and stated behavioral objectives. Second, a frame-by-frame analysis of parts of each book will be made using the adaptation of Bloom's taxonomy as a guide. The books were analyzed in sections by taking about thirty frames from the beginning, middle, and end of each book. This procedure included an analysis of the review frames and of the review tests where they existed in order to determine whether the author seemed to be using a learning cycle which would lead to realization of the author's stated behavioral objectives.

Book I: Richard Attiyeh, Keith Lumsden, George Leland Bach, *Macroeconomics, A Programmed Book.*

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[1] The two books to be analyzed are: Richard Attiyeh, Keith Lumsden, George Leland Bach, *Macroeconomics, A Programmed Book*; and Robert C. Bingham, *Economic Concepts: A Programmed Approach.*

There are seven sections in this book: (1) The Measurement of National Output; (2) Real and Potential GNP; (3) Aggregate Demand and Aggregate Supply; (4) The Multiplier; (5) Fiscal Policy; (6) Monetary Policy; (7) Problems of a Dynamic Economy.

The program is of linear design, i.e., the short steps between frames should develop a constructed response. However, it was found that the responses which are required in this book are not consistent over the several frames that would lead to a constructed response. There is no introductory material of any kind at the beginning of each section of the book, but instead the program is immediately introduced. The student is not sure what is to be learned because the behavioral objectives are not stated. In addition, no review frames of material or review tests are presented which would help the student measure his own rate of progress.

In the following frame-by-frame analysis the indicated levels of cognitive skill were required of the students. The analysis covers sections (1), (3), and (7), of the Attiyeh, Lumsden and Bach book. Following the data a brief paragraph will describe the general content of each section. In addition, the learning cycle and the program design strategy will be described to show, with some illustrative frames, how the students are encourage to learn. At the end of each section some tentative conclusions will be made about the effectiveness of the program.

Table I

Analysis of Section I; Attiyeh, Lumsden and Bach

Section	Frame	Type of cognitive skill	
"National Output"		Knowledge Item	Skill Item
I.	1	1.0	
	2	1.1	
	3	1.1	
	4	1.3	
	5	1.1	
	6	1.1	
	7	1.1	
	8	1.2	
	9	1.1	
	10	1.1	2.2
	11	1.3	
	12	1.2	
	13	1.1	
	14	1.1	
	15		
	16	1.1	2.2
	17	1.1	

(continued)

(continued)

Section I; Frame	Type of cognitive skill	
"National Output"	Knowledge Item	Skill Item
18	1.1	
19		2.2
20	1.1	
21		2.2
22	1.1	
23	1.1	
24		2.2
25	1.2	
26	1.1	
27	1.1	
28	1.2	
29	1.1	
30	1.1	

The general content of this section deals with the measurement of national output. However, the beginning frames are used to introduce the scarcity concept. Frame 9, for example, summarizes the preceeding frames like this:

> When considering an entire nation, it is clear that the level of economic welfare attained depends on two factors:
>
> (1) the quantity of ______________ available, and
>
> (2) how ___________ these resources are used.
>
> ANS. (resources - efficiently)

It should be realized that this is an example of how knowledge is gained through use of the learning cycle, and then later recalled to interpret or to comprehend a particular problem.

From the data on the section above it can be seen that the level of cognitive skills required is generally low; over half of the frames fall into the category of simple distinction and elementary factual knowledge. Only about one sixth of the frames fall within the range that could be classified as skill items. Further, this pattern is generally consistent over the thirty frames that were studied.

The following data describes the level of cognitive skills required in section (3) of the program, Aggregate Demand and Aggregate Supply Analysis. Again, the data will be followed by some illustrative frames to show how program design promotes student learning.

Table 2

Analysis of Section 3; Attiyeh, Lumsden, and Bach

Section	Frame	Type of cognitive skill	
"Aggregate Demand and Aggregate Supply"		Knowledge Item	Skill Item
3.	1	1.1	
	2	1.1	
	3	1.1	
	4	1.1	
	5	1.1	
	6		2.2
	7		2.2
	8	1.2	
	9	1.3	
	10	1.1	
	11	1.2	
	12	1.2	
	13	1.2	
	14		2.2
	15	1.2	
	16	1.1	
	17		2.2
	18	1.2	
	19	1.2	
	20		2.2
	21	1.1	
	22	1.1	
	23		2.2
	24	1.1	
	25	1.1	
	26		2.2
	27		2.2
	28		2.2
	29		2.2
	30		2.2

Frames 12, 13, and 14 illustrate how program design strategy has been used to facilitate learning. The three frames, as they appear in the book, are:

12. Since the economy was initially at full employment, it (would/would not) be possible for producers to increase production because there (would/would not) be unemployment resources available.

13. Thus the increase in aggregate demand means that, at initial prices, buyers would be trying to buy (more/less) output than could be produced. In such a situation, competition among buyers would force the price level (up/down).

14. What this example makes clear is that whenever aggregate demand exceeds potential GNP valued in initial prices the price will (increase/decrease). Thus, inflation will result whenever the level of ________________ is greater than ____________ ________ in initial prices.

ANS. (14--increases - aggregate demand - potential GNP)

The student must make the distinctions above and then recall this information to interpret the problem posed in frame 14. In general, this section showed more learning of skill items. Over one third of the frames fell into the category of interpretation. Most of the presentation was verbal with more vigorous expositions left until frame 40.

Table 3

Analysis of Section 7; Attiyeh, Lumsden and Bach.

Section	Frame	Types of cognitive skill	
"Problems of a Dynamic Economy"		Knowledge item	Skill Item
7.	1	1.1	
	2	1.1	
	3	1.1	
	4	1.2	
	5		2.2
	6	1.1	
	7	1.1	
	8		2.2
	9	1.1	
	10	1.1	
	11		2.2
	12	1.1	
	13		2.2
	14		2.2
	15		2.2
	16		2.2
	17		2.2
	18	1.1	
	19	1.1	
	20		2.2

(continued)

(continued)

Section	Frame	Knowledge Item	Skill Item
"Problems of a Dynamic Economy"			
	21		2.2
	22		2.2
	23	1.1	
	24	1.1	
	25	1.1	
	26	1.1	
	27		2.2
	28	1.1	
	29	1.3	
	30		2.2

Types of cognitive skill

Fiscal and monetary problems are considered in the light of the policy goals of price stability and full employment. It should be noted that almost half of the frames in this section fall into the category of interpretation.

Book II: Robert C. Bingham, Economic Concepts: A Programmed Approach.

This book is divided into eight sections which include: (1) Demand and Supply; (2) National Income Accounting; (3) National Income Analysis; (4) Money and Banking; (5) The Costs of Production; (6) Product Prices and Output; (7) The Prices and Employment of Resources; and (8) International Trade.

The style of programming in this book is mainly linear but there are occasional uses of the branching format. Many of the frames are larger and more detailed than in the preceeding book. Review frames appear frequently in the book and are designated as such in the data below. Review tests are also included at the end of the book which enable the student to measure his own rate of progress. In addition, objectives are stated very generally at the beginning of each section. These sections they introduce the student to the objectives of each section in a general way, thereby enabling him to focus his efforts more effectively. In the introduction to section (1), for example, the author considers three very broad objectives to be of importance:

> To begin, we will examine demand to learn what is important to know about it. Then we will do the same for supply. Finally, we can use demand and supply together to explain what the price

of a commodity will be, how much of the commodity will be bought and sold, when its price will change, and when the amount bought and sold will change.[1]

Table 4

Analysis of Section I; Bingham

Section	Frame	Type of cognitive skill	
"Demand and Supply"		Knowledge item	Skill item
I.	1	1.0	
	2	1.0	
	3	1.0	
	4	1.0	
	5	1.1	
	6	1.2	
	7		2.2
	8		2.2
	9		2.2
	10		2.2
	11		2.2
	12		2.2
	13	1.2	
	14	1.2	
	15	1.2	
	16		2.2
	17		2.2
	18	1.2	
	19	1.2	
	20	1.2	
	21	1.2	
	22	1.2	
	23	1.2	
	30 Review frame	1.1-1.3	2.2 (parts of a large frame)
	Review test		
	1	1.2	
	2	1.3	
	3		2.2
	4	1.2	
	5	1.2	
	6		3.0

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[1] Robert C. Bingham, p. 1.

It can be seen from Table 4 that there is a general pattern of cognitive skills being developed which is in agreement with Bingham's review frames and review test material. Analysis of the learning cycle shows that the criteria tests are testing the same skills developed in the main body of frames. For example; frame 11 in the main body and frame 3 in the review test help the student in making an important distinction about the Law of Demand:

Frame 11 ...If the price of a commodity were to decrease then, according to the Law of Demand, there would also be:

(a) an increase in the demand for the commodity

(b) an increase in the quantity demanded of the commodity

ANS. (b) if you put down (a) you have forgotten that demand means "demand schedule" and....

Review Test Frame 3 When the price of any commodity increases there will be a:

(a) decrease in the demand for the commodity

(b) decrease in the quantity demanded of the commodity

Thus, the learning cycle from the previous frames has developed a cognitive skill. The behavioral objective examined in the criteria test is in agreement with the intended objective formulated at the beginning of the program.

Table 5

Analysis of Section 3; Bingham

Section	Frame	Type of cognitive skill	
"National Income Analysis"		Knowledge item	Skill item
3.	1	1.0	
	2	1.0	
	3	1.0	
	4	1.0	
	5	1.1	
	6	1.1	
	7	1.2	
	8	1.3	
	9	1.2	

(continued)

Section	Frame	Types of cognitive skill	
"National Income Analysis"		Knowledge item	Skill item
	10	1.2	
	11	1.2	
	12		3.0
	13	1.2	
	14 Review	1.2	
	15 Review	1.2	
	16		2.1
	17	1.2	
	18	1.2	
	19	1.2	
	20	1.2	
	21		2.1
	22	1.2	
	23	1.2	
	24		2.2
	Review Test		
	1		2.2
	2		3.0
	3		2.2
	4		3.0
	5		3.0
	6		2.2

This section contained three stated objectives in its introduction: to explain what determines the size of GNP, (2) the size of NNP, and (3) changes in NNP from year to year.

Initially, many of the frames in this section are concerned with ways and means of dealing with specific knowledge. Later in the program the information presented was used in problem solving. The material of frames 5 through 8, for example, is later applied to interpret the review test's frame 1.

Frame 7 (an expansion of concepts in frames 5-6)

> Because there are only four kinds of spending and four groups of spenders in the economy, aggregate demand has only four components:
>
> $$AD = C + I_n + G + F \text{ (foreign)}$$

(consumption) C represents spending by consumers and is called______.
I_n represents spending by.....

Review test Frame 1

The four components of aggregate demand are_________,
_________,_________, and________.

ANS. (consumption, net investment, government spending, net exports)

Again, the program design strategy and the behavioral objectives are skillfully interwoven.

Table 6

Analysis of Section 7; Bingham

Section	Frame	Type of cognitive skill	
"The Prices and Employment of Resources"		Knowledge item	Skill Item
7.	1	1.1	
	2	1.1	
	3		3.0
	4		2.2
	5		2.2
	6		2.2
	7		3.0
	8		2.2
	9		2.2
	10		2.2
	11	1.2	
	12		3.0
	13		2.2
	14	1.2	
	15	1.2	
	16	1.2	
	17	1.2	
	18	1.2	
	19		2.2
	20 Review frame	1.3	
	21 Review frame		2.2
	22		2.2
	23		2.2
	24		3.0
	Review test		
	1	1.3	
	2		2.2
	3		2.2
	4		2.2
	5		2.2
	6		2.2

The level of difficulty in this section was found to be very high with a large amount of quantitative reasoning required. It might even be suggested that this section should only be assigned under circumstances in which there can be direct supervision by the instructor. A beginning student could become discouraged in attempting this section on an individual basis.

Several objectives were stated in the section's introduction:

(1) to learn how demand and supply determine the price and the total employment of a resource. (dependent upon)

   a. whether the resource is used by perfectly competitive employers, or a monopolist.

   b. whether only one or all of the resources a firm employs are variable.

(2) to look at firms to discover how much of each resource they will employ when all of their resources are variable.

The student is required to compute the marginal physical product of labor, the total revenue of the firm, the MRP of the firm, and the marginal revenue cost. There is no graphic analysis used and the computations are developed into labor supply, production, price, and revenue schedules. Because of this the frames are quite lengthy and, therefore, will not be reproduced for illustrative purposes. However, the review frames and the review tests, appear to correlate well with the main body of the program.

III SUMMARY

This paper has described the important characteristics and advantages of programmed instruction. It has defined programmed instruction in terms of these common characteristics: (1) present information that requires a response; (2) provide feedback to the learner; (3) allow the learner to adjust his rate of progress; (4) base the programmed learning on educational objectives stated in behavioral terms, and (5) establish measurement criteria to measure performance in terms of these goals.

This paper has explained a program as an automatic self-regulating system, a cybernetic system. It has also related programmed instruction to the Suchman's thinking-learning model. Assuming the student wants to learn, a program can make the student into a cybernetic system, thus insuring that he does in fact learn what he is supposed to learn. The program tends to use cognitive motivation because there is constant interaction between the learner and the program which increases student interest in learning. Once the learner is motivated, then, the program is able to control the intake or the encounters that are necessary to interact with the organizers which results in learning.

The second part of the paper applies the theory of learning developed in the first section. Two programs were analyzed to identify the types of cognitive skills required of the students when they interact with the programs. We analyzed the design strategy employed in constructing the frames and the validation of the program to determine how much is being learned.

The analysis undertaken here sought to evaluate the success of each program in dealing with these problems, the Bingham book appears to have some advantages over that by Attiyeh, et.al.; in this respect.

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THE TASK OF RECONSTRUCTING ECONOMICS CURRICULUM: THE NEED AND A SUGGESTED METHOD

By
Burton T. Gray

I INTRODUCTION

In the Process of Education by the renowned Harvard psychologist and educator, Jerome Bruner, the author states that the curriculum of any subject "should be determined by the most fundamental understanding that can be achieved of the underlying principles that give structure to the subject.[1] Bruner explains that, "grasping the structure of a subject is understanding it in a way that permits many other things to be related to it meaningfully. To learn structure , in short, is to learn how things are related."[2] Underlying this position that learning is enhanced and what is learned is more useful in a curriculum which reflects the discipline's basic structure is the requirement that the curriculum designer have the most fundamental understanding of that field.

The Economics IA and IB courses are supposed to present and introduce the "principles" of economics. Presumably, these principles should constitute or include the structure of the science. However, in the field of economics, at the present time, there is considerable disagreement voiced by some groups as to what the structure should be. One objective of this paper is to examine these controversies over the nature of economics. This will involve a brief description of the epistemological basis of "orthodox" economic theory and an analysis of the current criticisms of this orthodoxy.

Many economists may not admit to the existence or importance of such disagreements, or, if they acknowledge the existence of disputes over the structure of the discipline, they do not consider them sufficiently important to warrant any of their own time and effort. While this attitude might be acceptable for the non-teaching economist, it is not for those of the profession who profess and, therefore, necessarily design economics curricula.

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[1] Jerome Bruner, Process of Education, (New York: Alfred Knopf, Inc., 1960), p. 31.

[2] Ibid., p. 7.

Unfortunately, the organization of modern economic thought and research provides a peculiar "out" or mask for the inadequacies or discrepencies of the theories and this permits economist teachers to refuse to channel their efforts into the resolution of these problems. This is the somewhat arbitrary division of economic analysis into the separate areas of microeconomics and macroeconomics. As we shall see, one of the major sources of controversy is over the effect of studying aggregates separately from structure and the apparent logical inconsistencies which result from the division. While the economist, like an ostrich, might find comfort in sticking his head into the sands of macroeconomics, observers (some of whom are students) notice and wonder about that part of the body which is not hidden from their view, but which does not seem to be adequately explained by microeconomic theory.

In this paper I will discuss attacks on the theory from two sources. One is from within the discipline itself and is perhaps best expressed in the writing of John Kenneth Galbraith. The other source of bitter criticism is from the Marxist school. Both call into question the value of much of the theory and policy orthodoxy presented in the typical undergraduate economics curriculum, particularly in the principles course.

The second objective of my paper is to relate these controversies over the structure of the discipline to problems of curriculum design. This I will do by introducing a model developed by J. Richard Suchman which depicts teaching-learning as a cybernetic system. The intention here is to propose a useful perspective for discussing and solving problems related to economics curriculum design.

II THE CURRENT ORTHODOXY

Modern orthodox economics, sometimes referred to as the science of human action, is based on the assertion that the prerequisites for individual action are dissatisfaction on the one hand, and on the other, the possibility of alleviating that state. Action takes place only where decisions have to be made and, therefore, every act reveals the preferences of the individual. Because all goals either cannot be achieved at all or simultaneously, and because man is mortal, he is compelled to economize in his action; that is, he must compare alternative possible acts. Human action and conduct is the fundamental datum of the science.

Furthermore, the theory is derived from two economic laws which are assumed to be universally valid. Specifically, they are the laws of diminishing marginal utility and increasing marginal costs. On the basis of these laws, orthodox economics constructs an elaborate theory of value, which describes "the price system" in any money exchange market economy. These principles of orthodox economics attempt to explain those forces operative under all such systems; that is, these principles are thought of as universally applicable.

Keynes' fundamental contribution to the theory is concerned with an economic system of indirect exchange.[1] Whereas money was held to serve only as a medium of exchange in classical economic theory, Keynes analyzed the effects on economic activities resulting from the fact that money also functions as a store of value. He concluded that it was probable that "the price system" would attain an equilibrium solution at less than full employment. Financial capitalism (or more vulgarly, that aspect of the price system that enabled man to make money on money) obstructs and hinders the potential productivity of industrial capitalism. Underemployment and overemployment are realities of the indirect exchange system because of the characteristics of money.

Keynes reestablished the importance in orthodox economics of aggregate economics or national income theory. Be reformulating the function of the government sector of the economic system, the naturally equalibrating "guiding hand" of Adam Smith was replaced by the "deus ex machina" role of the state.

III GALBRAITH'S ATTACK ON THE ORTHODOXY

Today, the attack on orthodox economic theory from within is most dramatically characterized in the works of John Kenneth Galbraith. In his recent book, *The New Industrial State*, he assails specific aspects of the microeconomic theory as basically irrelevant. The following is a typical example of his stand:

> "A year or two ago, the United States Department of Commerce, invading an activity hitherto reserved, at least in Democratic administrations, to private enterprise, published a small pamphlet setting forth the blessings of capitalism. It illustrated these by describing the operations of a lemonade stand conducted by two children under the trees. This was in keeping with well-established practise in economics education which regularly holds that capitalism can best be understood by examining enterprises with little or no capital, guided by one person, without the complications of corporate structure and where there is no union. Economic life began with small firms, with small capital, each under the guiding hand of a single master. A systematic and internally consistent theory, that of the competitive firm in the market economy, is available for the explanation of such an economy. This lends itself well to pedagogy. But this view of the economy is not sanctioned by reality."[2]

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[1] See Dudley Dillard, *The Economics of John Maynard Keynes*, Chapter 12, "The Development of Keynes' Thought and the Social Philosophy to Which It Leads." In this chapter the author does a good job of explaining Keynes' dissatisfaction with financial capitalism and the impetus such feelings generated toward a clarification of the theory of industrial capitalism.

[2] John Kenneth Galbraith, *The New Industrial State*, (Boston: Houghton Mifflin Co., 1967), pp. 8-9.

In the fashion of an institutionalist, Galbraith identifies gross inconsistencies between the micro and macroeconomic theory. For example, micro analysis leads to the conclusion that imperfect competition creates a serious misallocation of resources and therefore reduces efficiency and economic growth. According to the criterion of micro theory, then, the U.S. market system is unsatisfactory. On the macro level, however, the system is lauded as the most productive and efficient in the world. How can these two attitudes be reconciled?

Galbraith maintains that the answer lies in the technological forces that have shaped the modern institutional framework of the system. In markets dominated by huge national and international corporations, administered prices are a planning device; their relative stability and predictability is essential to the successful operations of the corporation. Thus, considering pure competition as an ideal--the effect of our standard reliance on purely competitive models as a basis of comparison is tantamount to denying the fantastic technological breakthroughs in production and their effects on industry organization. Using the farming industry as an example he maintains that:

> "Even modern agriculture, although it is outside the industrial system, cannot accommodate itself effectively to radical price changes and all countries with highly developed agriculture have moved toward planning in this industry to the extent of establishing systems of price controls. This has been the direct result of advancing technology and increasingly heavy capital requirements. And the consequence (and most notably in the United States) of price security and associated ability to plan has been much increased investment by farmers in new capital and technology. The further result has been gains in productivity in recent years that have been considerably greater in agriculture than in industry. However, farmers being numerous, there is no chance for the non-governmental regulation of prices that characterizes the industrial system. It has had to be done by the government. And so deep is the commitment to the illusion of control of the enterprise by the market that this price regulation--which cannot be concealed--is still not wholly accepted by economists, including those who otherwise applaud agricultural efficiency. The fixed prices, by distorting resource use, are thought to be a source of inefficiency. It is not observed that the same fixed prices make possible the advanced technology and higher capital inputs which greatly enhance productivity.[1]

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[1] Ibid., pp. 190-191 (footnote).

Galbraith gives many other examples in the book, but this should be sufficient to point out his evaluation of the glaring irrelevance of much of the orthodox price theory and the policy implication ordinarily drawn from it.

IV THE MARXIST CRITICISM

The Marxist attack on orthodox or bourgeois economics is similar in that it focuses on the inconsistencies between theory and reality; however Marxists arrive at altogether different conclusions. Rather than advocating a reconstitution of the theory, the Marxist works to eliminate the system described by the theory. Orthodox capitalist theory is thought to be conditioned by class interests; it is part of the superstructure of the Capitalist era and as such it describes and provides a justification for capitalism. Specifically, Marxists often attack orthodox theory on the grounds that it is not pure or value-free theory. Take, for instance, the following statement made by James O'Connor in a recent article:

> "It should be obvious from the discussion that macro-theory was formulated with an eye to macro-policy--that in no sense can macro-theory be considered pure theory, or value-free theory. The orientation of macro-theory is toward the control of income, employment, and prices via state economic policy."[1]

The validity of this criticism rests upon a rejection of the basic premise of the science of human action--that is, that man acts to achieve specific ends.

Knowledge acquired through scientific reasoning and research and logical deduction provides the means by which men are enabled to achieve their ends. The orthodox economist argues that knowledge, or "pure" theory, can be scientifically valid without being value-free. In other words, the orthodox economist accepts the notion that the goals of man's action are conditioned by his values, but rejects the idea that such values can be said to negate the scientific character of any specific body of theory if it withstands the scrutiny of logical reasoning or empirical testing.

If this aspect of the Marxist attack against orthodox economic theory is to represent a serious threat, the critic should concentrate on destroying the foundation of the science. This can be done by proving that there is a value-free theory and then by constructing one.

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[1] James O'Connor, Reprint (San Jose State Library) "Scientific and Ideological Elements in Macro-Economic Theory," p. 3.

Failing to do this, the Marxist might still argue that the solution lies in a body of values universally acceptable to mankind. But once again, the burden of proof is upon his shoulders: first, because he must construct a body of values that would be recognized as true and meaningful by all; and second, because he would be a captive of his own criticism because there is no reason why a universally acceptable body of values would be any less of a hindrance to scientific research than a particular body of values (i.e., the "capitalist values").

This leaves the Marxist in no better or worse a position than the traditional critic of any organized body of knowledge. In which case, his unique contribution is perhaps to be found more in his role as conceptual organizer of history socio-economic environment than in his role as moral philosopher or meta-physician.

V TOWARDS RESTRUCTURING THE PRINCIPLES COURSE

The previous sections outlined two current critiques of the economic principles which are traditionally the back-bone of the college principles course. Now it is necessary to show how and why this structure weakens the course, and how we might begin to restructure the principles. To help relate these criticisms to the need and method for reorganizing the economics curriculum, I will use the learning-thinking model designed by J. Richard Suchman.[1] The model provides a vocabulary and frame of reference for discussing the learning process.

Suchman asserts that learning and thinking are the same process and that learning can be defined as the pursuit of meaning, that people acquire new meaning from the interaction between the encounters they have with the outside world and the stored knowledge or organizers they use in reacting to the encounter. Suchman defines an organizer as stored knowledge which a person can recall and use (data, inferences, systems, models, etc.) A person's organizers or stored knowledge control how he perceives--what information he takes from an encounter--and how he uses the new information to create new meaning--new organizers.

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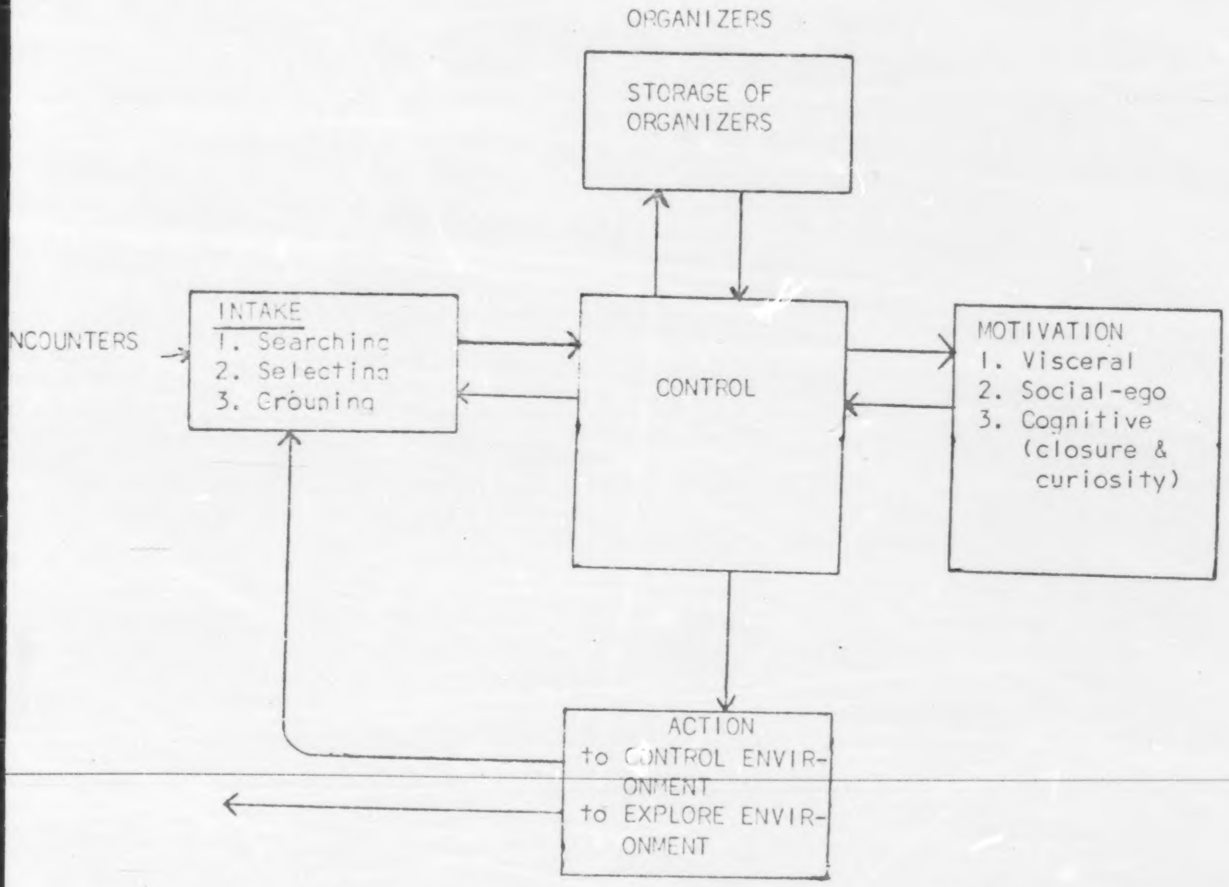
[1] My information on the Model was derived from an article entitled "A discourse on the Effects of Assigning Grades to Students", by Galm, Sperling, and Crawford.

The model describes the process of learning and thinking and is reprocuded below.

SUCHMAN'S LEARNING-THINKING MODEL


ORGANIZERS
STORAGE OF ORGANIZERS
NCOUNTERS
INTAKE
1. Searching
2. Selecting
3. Grouping
CONTROL
MOTIVATION
1. Visceral
2. Social-ego
3. Cognitive (closure & curiosity)
ACTION
to CONTROL ENVIRONMENT
to EXPLORE ENVIRONMENT

Now, let us translate problems of curriculum design into the terminology used in the Suchman model. There are two problems involved in designing a principles course. The first involves determining what those principles (the structure of the discipline) are. In Suchman's terminology, the principles are the organizers which are to be learned. For the economists these organizers have meaning--they are their basic intellectual equipment, they control their perceptions and scientific inquiry. Economists want to pass on these organizers to students so that students can use them to organize (control) their economic reasoning. Once learned, students should be able to use the organizers for some purpose.

The question is, will students acquire the organizers and be able to use them? They will if they mean something to them, if they can see some use for them. What about the principles of economics?

The criticisms of economic theory noted earlier suggest that the economics principles passed on to students in Economics IA and IB leave something to be desired.. In the social sciences, as opposed to the physical sciences, there are changes both in the state of knowledge and in the subject of study due to institutional changes in the social structure. If, for example, the economic principles of price determination in pure competition are useless in describing the pricing behavior of huge multinational corporations, should this theory be given such emphasis in the principles class? While economists create changes in the existing body of knowledge through research they are hesitant about changing the core "principles" to reflect these changes in theoretical descriptions of basic economic institutions. Therefore, rightly, students don't get the connection. One major clue, then to reconstruction of economics curriculum is to identify as the basic principles those organizers which explain existing institutional structure and behavior

The second problem relates to the way these principles or organizers are presented or used in the course. To what extent are they related to what students already know about the economy and society? How can they be used to explain economic activity? Do students have an opportunity to use the organizers to clear up confusing and interesting questions about the economy?

Students learn economics through encounters set up by the instructor through lectures, reading assignments, written assignments, examinations, etc. Since the course is based on the principles and presented as a series of encounters, course improvement means a reexamination and reformulation of either the encounters or the structure, or both. Galbraith's objections suggest that we need both more relevant organizers and encounters. If the information provided seems irrelevant and conflicts with students' previous experience, at best they will react reflexively to learn what is expected of them. They hardly can be expected to inquire or to take the subject seriously.

Perhaps the significance of the oft-repeated student complaint that the introductory economics course is dull and irrelevant is that the classroom encounters simply do not correspond to the social, political, and cultural environment of the world the student experiences. Therefore, a second major clue for research and investigation into economics curriculum lies in an examination of the realtionships between the economic organizers and the encounters.

It is essential that the teaching economist have as fundamental as possible a grasp of the workings of the modern economic and social world. Whether there be subtle, logical inconsistencies or blatant fallacies in the principles of economics, all such weaknesses weaken the structure of the material and render it that much more difficult for the student. It is as essential for the skilled economist to devote time to the clarification of economics curriculum as it is for him to engage in original research.

Although economists may not agree with the Marxist critique of orthodox theory as an apology for capitalism, nevertheless Marxist organizers and methodology can offer worthwhile additions to economic inquiry. In particular, certain of the Marxist organizers might be useful for describing economic organization--for example, the concept of economic surplus. It is interesting to note that in a book review of *Monopoly Capital*, Professor O'Connor made the following remarks:

> "Marxist analytic tools were developed to describe the transition from precapitalist to capitalist economies and to unravel the laws of motion of competitive capitalism. An analysis of monopoly capitalism requires techniques which are more adoptable to their subject matter. These are nowhere to be found in the classic Marxist literature, although there have been attempts to stretch the labor theory to fit problems of monopoly pricing. The utility of the techniques based on the labor theory nevertheless remains limited to explaining the origins of profits and the distribution of income between economic classes under a regime of competition. Mainly for this reason, the authors of *Monopoly Capital* have been compelled to borrow most of their tools from economic orthodoxy."[1]

The fact that Marxists have been resourceful enough to adopt such procedures suggests that it might be equally rewarding for the orthodox economist to integrate some of the Marxists tools in his analyses.

VI CONCLUSION

In this study I have tried to suggest the need for and reevaluation of the structure of economics as the basis for revising the economics curriculum.

In designing curriculum, the teacher should be guided by student needs and abilities; students learn things which will serve them in the future. There is in economic instruction, however, the danger that choices of what students are required to learn "depend not on the relevance of the subject matter but on the existence of an intellectually preoccuping theory."[2] To the extent that this is true, there is certainly a task ahead for the teaching economist. Hopefully, this paper offers some insights as to the direction that work could take, and how to go about reconstructing the curriculum.

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[1] James O'Connor, Reprint (San Jose State Library), 'Monopoly Capital", p. 38.

[2] Galbraith, *op. cit.*, p. 46.

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A CRITIQUE OF THE STRUCTURE OF THE STANDARD PRINCIPLES COURSE AND SUGGESTIONS FOR CHANGE

by

Carolyn Ahern

I INTRODUCTION

In contemporary U.S. society the line can no longer be drawn between economic and political problems. However, in the theories economists introduce in the elementary principles courses they seek to explain the efficient operation of a market system, operating more or less "automatically" according to special laws of its own. The relevance of these theories and their applicability must now be questioned, for they pertain mainly to the days when the economic functions of the state were minimal and the market system was in essence "free." Today most economic problems involve some form of state action and affect the distribution of income, monopoly rights and property values, etcs., all of which create political problems. Several years ago, K.W. Rothschild wrote, "the separation of the economic from the political must necessarily result in an incomplete picture, which will not suffice for giving us a reasonable explanation of oligopoly price." (Economic Journal, September, 1947, p. 317)

Political considerations and the power of vested interests affect inflationary and deflationary policies--aggregate growth and stability--questions of wage and price movements, of shifts in productivity and in the other distributive sharesin national income. They are also crucial for predicting the feasibility and effects of government policies. Such policies today cannot be regarded in the abstract and as distinct from the particular interests which initiate them, and in turn, whose ends they serve. In fact, economic theory should be seen as an adjunct to the formulation of economic policy. To understand the economy, the student should understand who controls it and for what ends, and then see how the people with this control can be made accountable to the rest of the people.

The purpose of this paper is to show why there must be a change in the content of introductory principles texts such as Samuelson, McConnell and Lipsey and Steiner to describe more accurately the basic characteristics of U.S. capitalism. To me the most important characteristic of our economy is the economic and political dominance of large corporations and government agencies, the development of what Galbraith calls the New Industrial State in which market competitive forces have given way to corporate and government planning and where there is a growing dependence of private corporations on state stabilization and growth policies. Accepting this point of view about our economy has important implications for economics instruction for, if there is a New Industrial State, then it makes sense to design the principles course as an introductory study of it.

I will present arguments and empirical evidence to justify this switch in emphasis and reorganization of the principles courses. The remaining sections present evidence about the extent of corporate dominance of the economy and then analyze the effects of this dominance, showing the need for at least three kinds of alterations in the "principles of economics":

(1) To the extent that the economy is dominated by the actions of large corporations, the nature of competition changes. This requires a change in emphasis and, to some extent, a new microeconomic analysis. Certainly students should study corporate behavior and the nature of current industry organization.

(2) If U.S. capitalism is increasingly operating in international markets and the corporations are increasingly international economic and financial organizations, then it is essential to study the system in its entirety. This means a more careful integration of international trade and development into a study of the U.S. economy and more emphasis on the effects of institutional structure on growth and development.

(3) To the extent that corporations are increasingly dependent on government stabilization and growth policies and government action to promote steady corporate growth, it is essential to expand macroeconomic analysis to include government as endogenous to the system. Furthermore, students should see that the macro problems of growth and stability are related to the microeconomic structure of the society. They should see macroeconomics as an aggregate view of microeconomics. In addition, this approach would require an expanded analysis of the determinants of consumption, investment and government demand.

The final section of the paper sketches out a possible revision in the principles course organization.

Throughout this paper my analysis reflects my own conception of the economics discipline as it has developed in this country, as a tool used to comprehend our economic system in order to improve and perfect it. That is, I see the economics discipline as part of the culture it describes. This explains why U.S. economics in general does not try to criticize or question seriously the value system embodied in our present form of capitalism. Rather, the economics profession accepts the system and is oriented towards bringing about the achievement of goals devised by the people who control the system.

It follows then that principles texts, as introductions to the discipline, do not question the value of our economic system. The authors take the system and its values as given and describe them sympathetically and enthusiastically. I do not quarrel with this tendency; the textbooks should reflect the nature of the discipline. Nevertheless, the "principles" should describe the system, and the course should change as the economic system changes. The tools the students learn should be appropriate for analyzing the present institutional structure and the effects of this structure. Furthermore, principles students should recognize that they are acquiring useful tools--methods and organizing principles which will heighten their understanding and ability to cope in their own society.

II THE EVIDENCE: THE CENTRAL IMPORTANCE OF LARGE CORPORATIONS IN THE U.S. ECONOMY

The recognizable trend in the U.S. is the growing importance of huge corporations. There has been a steady and continuous trend towards the concentration and centralization of capital which has tremendous affects on the structure of American society, and consequently, on the teaching of economics.

There are eleven to twelve million business enterprises in the United States, counting the smallest newstand and the largest corporation. But there are two parts of the economy. First, there is that part dominated by the few hundred technically dynamic, heavily capitalized, and highly organized corporations. Secondly, there is the part which is composed of the millions of small and traditional propreitorships. (However, the smaller firms are not only becoming more and more dominated by the former, but there is growing evidence that they have become incorporated into the big business structure.)

The corporation is the basic planning unit in the economy and the scale of operations of the largest (General Motors, Standard Oil of New Jersey, and Ford Motor Co.) approximate those of government. For example, in 1965 each of these had gross revenues which far exceeded those of any single state (Galbraith, The New Industrial State, p.76).

According to Heilbroner, in The Limits of American Capitalism, a tiny group of immense corporations constitutes a formidable economic strength within the economy. He notes that while much attention is given to the top 500 manufacturing corporations that this in fact obscures the concentration within the concentrate. In fact, the top 50 industrials receive an aggregate of sales as large as that of the bottom 450, and the profits of the top ten companies are equal to almost half of those of the remaining 490. Listing industrial companies according to the ownership of a billion dollars' worth of assets or the sales of a billion dollars' worth of goods or services, this leaves roughly the top fifty industrial firms, the top forty banks, the top twenty insurance companies, the top ten merchandisers, the top ten transportation companies, and the top twenty utilities--150 companies in all. Removal of these 150 supercorporations from the economy would effectively destroy the American economy. (page [illegible])

Evidence is readily available as to the scale of the modern corporate enterprise in the United States industrial system. According to Galbraith, in 1962 the 5 largest industrial corporations in the U.S., with combined assets in excess of $36 billion, possessed over 12% of all assets used in manufacturing. The 50 largest corporations had over one third of all manufacturing assets. The 500 largest had well over two thirds. Corporations with assets in excess of $10,000,000, some 2,000 in all, accounted for about 80% of all the recources used in manufacturing in the United States. In 1964 four corporations accounted for an estimated 22% of all industrial research and development expenditures. Three hundred and eighty four corporations, employing 5,000 or more workers, accounted for 85% of these expenditures; 260,000 firms employing fewer than 1,000 accounted for only 7%. (pages 74-5)

Another recognizable trend in the economy of the U.S. today is the growing importance of the conglomerate corporation. "The giant corporations increasingly become conglomerate corporations, operating in many branches of industry; today's merger movement is the strongest in industrial history, and the largest share of mergers are of the conglomerate type." (James O'Connor, The Situation At Present and What Is To Be Done, p. 2)

Still another pattern shows up when we study the number of directorships in corporations of every size held by the directors of the top 200 corporations. A pattern of extensive interlocking directorships emerges, involving a very large percentage of the top directors. The top 200 corporations exert influence within innumerable smaller companies. According to Fortune (June, 1956), in 1955 these 200 top nonfinancial companies directly owned 43.0% of the total assets of 435,000 nonfinancial corporations. This amounted to a least 18.3% of the total national reproducible tangible assets of $891 billion.

Finally, United States capitalism in an international system, which, of course, is of both political and economic importance. In the words of Business Week, (April 20, 1963)

> "U.S. companies have found that their overseas earnings are soaring and that their return on investment abroad has frequently been much higher than in the U.S. As earnings abroad began to rise, profit margins from domestic operations started to shrink. . . This is the combination that forced development of the multinational company."

The corporations have a direct interest in domestic and foreign policy. Quoting Time (December 29, 1967),

> 'One of the most significant developments of the post-World War II world is the great leap by U.S. corporations into overseas markets--whether by direct investment in plant and equipment or by acquisition of foreign companies. In making that leap, American companies have begun to reshape themselves into global organizations to which national boundaries--and such narrow definitions as domestic or foreign--mean little." (p. 56)

III THE EFFECT OF THE NEW INDUSTRIAL STATE ON THE STRUCTURE OF THE PRINCIPLES OF ECONOMICS

Microeconomics

A change in the size of business and relative market power means a shift in emphasis in price theory, a revision of the empirical data used to describe markets and industry organization and a change in attitude about what constitutes efficient industry performance and a just allocation of resources.

In economics textbooks the corporation is not analyzed as differing functionally from the individual proprietorship or partnership. For instance, formal economic theory has largely ignored changing assumptions to describe huge,management-controlled, financially independent corporations. The theory continues to assume management by a profit-maximizing individual entrepreneur, a focus which has occupied center stage in theories of the capitalist system since before the time of Adam Smith. Or the theory assumes that corporation management acts like an individual entrepreneur when modern corporation management represents a qualitative break away from the older form of individual enterprise. Radically different types of behavior are to be expected from it. For instance, in *The Modern Corporation and Private Property*, Berle and Means have shown that the big corporation, if not more profit-oriented than the individual entreprenuer, is at any rate better equipped to pursue a policy of profit maximization. Certainly the diverse opportunities for profit making open to huge corporations, whether they are selling in domestic or world markets, and the size of operations make decision making in multi-national corporations qualitatively different from that of the small proprietor whose choices are relatively limited.

Market conduct and performance in industries dominated by large firms can hardly be described by purely competitive models. While we do not [illegible] do so, it would seem that in the principles course emphasis should be [illegible] on theoretical and empirical investigation of imperfect competition. In oligopoly and imperfectly competitive markets in general, there has been an abandonment of price competiion, at least of the variety described in simple competitive models, in favor of product competition--sales efforts and product and services differentiation. Today large companies are concerned with marketing and marketability, with expanding their market share and with finanaial management. The multinational corporation is a financial, production and marketing enterprise at the same time. Research and Development programs of large corporations are closely related to the production of salable goods. To quote Robert Dorfman, *The Price System*, "in lieu of price competition oligopolists rely on. . . competition through advertising and other merchandising efforts, and competiton through style changes and product improvement." (p. 102)

The sales effort used to be a mere adjunct of production, helping the manufacturer to dispose profitably of goods designed to satisfy recognized consumer needs. Today sales effort increasingly invades the firm dictating what is to be produced according to criteria laid down by the sales department and its consultants in the advertising industry. Every giant corporation is devoting more and more attention and resources to the sales effort, which is becoming increasingly important as a method of creating new markets and expanding old ones. Nevertheless, instruction in economic theory at the principles level does not center attention on demand (and its stimulation).

Another serious weakness in economic instruction is that we do not study capitalism as an international system. The study of economics does not seem to be focused on understanding the U.S. economic system in its entirety. U.S. capitalism is not studied as a total capitalist system. Instead we break down the study into component parts--macro, micro, international trade, comparative systems. We focus on the analysis itself--the theories--rather than on the society the theories are supposed to explain. If we were to focus on understanding the U.S. economy we would have to study the effects of our market structure on our total economy and on the economies of other countries. Not only should students make a realistic investigation of domestic market structure, conduct and performance; they should also study the operation of U.S. firms in world markets.

There is ample evidence from many sources to indicate the growing importance of international operations of multinational corporations and the growth in importance of the foreign sector in our economy. For example, in the September, 1965 issue of the *Survey of Current Business*, it was reported that between 1950 and 1964 earnings on foreign investment increased from 10% to 22% of all after-tax profits of domestic nonfinancial corporations. (page 28) In a recent monograph Harry Magdoff reported that in manufacturing during a recent ten-year period, domestic sales increased 50% while foreign sales increased by over 110%. (*Economic Aspects of U.S. Imperialism*, published by the Monthly Review Press, 1966, page 12)

Students should be introduced to the implications of economic involvement in foreign markets and the relation between economic and military actions. They should be aware that the military expenditures at home and abroad serve the special interests of the business community by (1) protecting present and potential sources of raw materials, (2) safeguarding foreign markets and foreign investments, (3) guaranteeing spheres of influence for U.S. business for trade and investment privileges, (4) creating new foreign customers and investment opportunities through foreign military and economic aid, and (5) maintaining the world market structure.

The concentration of economic power, so much part of the domestic scene, is even more evident in the field of foreign investment and in military spending. According to Magdoff, of the 50 largest industrial concerns the following types of firms are heavily involved in international economic operations and the supply of military goods: 12 in oil, 5 in aviation, 3 in chemicals, 3 in steel, 3 in autos, 8 in electrical equipment and electronics, and 3 in rubber. These 37 companies account for over 90% of the assets of the top 50 industrial firms. (page 20) In a recent study by the Joint Economic Committee of Congress, it was reported that 5 firms receive one fourth of the volume of military contracts, and 25 firms account for more than half of these contracts and a large part of this business is distributed to other businesses that supply these chief contractors. (*Background Materials on Economic Aspects of Military Procurement and Supply: 1964*, Joint Economic Committee of Congress, Washington, D.C., 1964, p. 11)

In the principles course, the student should be made aware that the less developed countries are integrated into world markets as suppliers of natural resources and they should study the effects of this form of specialization on the economic development potential of these countries. In addition, they should study the benefits of this trade and investment arrangement to foreign investors. For instance, with respect to only one kind of financial drain, data quoted by Magdoff from the Department of Commerce sources show that between 1950 and 1965, the income from direct investments transferred to the U.S. were almost three times as much as the funds invested in the foreign countries. This data is reproduced below in Table I.

Table I

(Billion of Dollars)

	Europe	Canada	Latin America	All other Areas
Flow of direct investments from USA	$ 8.1	$ 6.8	$ 3.8	$ 5.2
Income on this capital transferred to USA	5.5	5.9	11.3	14.3
Net	+$ 2.6	+$ .9	-$ 7.5	-$ 9.1

Source: U.S. Department of Commerce, Balance of Payments Statistical Supplement, Revised Edition, Washington, D.C., 1963, quoted in Magdoff.

Macroeconomics

By focusing the principles course around the study of American Capitalism and giving cnetral attention to the study of corporate behavior and performance, the necessity for studying macroeconomics becomes clear; thus, it can be integrated into the larger study of the American economy. With this shift in emphasis to the nature of American capitalism, students should see business and government economic policies and actions as inextricably bound together. Federal monetary and fiscal policies become a necessary adjunct to industry planning. Steady growth and a slight upward trend in prices are the ideal business conditions, for they reduce or eliminate uncertainty and therefore business risk, thus permitting giant businesses to engage in long-range planning of their own growth.

Thus, today the state regulates total income available for the purchase of goods and services, seeks to insure sufficient purchasing power for buying back whatever the labor force produces, and makes an effort to keep wages from forcing up wages. In addition, it is necessary for the state to manage consumer demand. This is because there is no guarantee that saving will be offset by spending. Thus further planning by the state is necessary to make sure that what is saved is invested, as a means of stabilizing the economy, but also to promote economic growth. The state uses its power over taxation and expenditure to provide the balance between saving and its use, another function which cannot be served except through centralized planning and action.

The major change in the content of macroeconomics necessitated by this refocusing relate to the theory of the determinants of aggregate private domestic investment and of government spending. First, aggregate government demand for goods and services should be introduced into the analysis as an endogenous variable, so that its determinants can be studied. Secondly and related to this, students should study the relation between private and public investment demand--the trend toward socialization of investment. Third, there should be a revision in the traditional theory of the determinants of private investment to place more emphasis on the effects on investment of forms of financing--the effect of the growing autonomy of large corporations from the money markets because of internal financing or dominance of the industrial sector over financial institutions, and the effect of government programs to underwrite or insure against losses. Fourth, we should study the extent to which corporate and government polices are effective in reducing investment risk and the degree to which we can continue to justify profits as a return for risk taking.

The Importance and Determinants of Government Spending. It seems totally untenable that the "G" component of GNP is not analyzed. According to Galbraith, "the services of federal, state and local governments now account for between 1/5 and 1/4 of all economic acitivity." (page 2).

Although students learn that the private economy may not automatically generate sufficient investment outlets to absorb the volume of savings generated by full employment national income and that government spending can be used to promote full employment, nevertheless, text authors only analyze the volume of spending and taxation, not the composition or determinants of the "G" component. The direction of redistribution of income and the effect on GNP resulting from government expenditures of 1/5 or 1/5 of GNP is an important subject of study. For instance, now important have government budgets become as a source of income to large corporations?

If the government budgets have become instruments of planning, then an important theoretical question is raised. In what way, if any, do corporate interests circumscribe the fiscal planning functions of government agencies? Students should be aware of the alternative uses of state revenues and the differential impact on the economy of each alternative: spending on social consumption, on real investment to increase productivity and on projects which encourage future private accumulation.

The government spending units make their investments to complement private investment, and private capital. For instance, the state, through military and other technical procurement, underwrites the corporations' largest capital commitments in the area of the most advanced technology. This large public investment in technological developments reduces costs and risks of technological development and also guarantees a market for industrial products. Although suitable justification, such as national defense and the needs of national prestige, can readily be found, the student should be aware of the implications of the growing socialization of risk and subsidization of demand.

Again, another form of government spending is in public education. Corporations today depend on the state for trained manpower (and how much credulence can be given to the notion that with *free* higher education society pays the cost, given the regressiveness of the tax structure) while business gets the benefit, the trained, technical labor power, instead of raw uneducated labor power.

There is increasingly the assumption of government rather than individual risk associated with the operation of the economic system. The state underwrites business losses sustained during economic crises. Direct lending, indirect lending via intermediaries and loan insurance and guarantees "socialize" business risk and create huge government liabilities. Such increases in state expenditures require that the tax base be enlarged via capital accumulation and the growth of real income. State investments must continue to be made with a close eye on the needs of private capital because if these are made independently of interests and needs of private capital, there will be a reduction in the rate of economic growth (and thus the tax base and the possibility of financing future expenditures). Thus, in the long-run the state policies and programs must encourage private capital accumulation in order to generate the economic growth required to raise the tax revenues necessary to finance these programs.

The Determinants of Aggregate Investment Demand. Traditional theories of investment need to be revised to conform to existing conditions. For instance, there has been an increasing merger of banking and industrial capital. "The banks are being transformed into financial instruments of the corporations. Corporate capital thus indirectly establishes more control over small business, utilities, and other capital dependent on, or owned or controlled by the banks." (O'Connor, *The Situation At Present*). In times of prosperity, and more generally in periods of inflation, large corporations can accumulate financial reserves, which make them largely independent of banks and of monetary policy, and even of the capital market, and permit the internal financing that has been such an important feature of business financing since the second World War.

Another example, according to traditional investment theories of the competitive system, technological change necessarily brings about investment and innovation. This theory may no longer hold under "oligopoly capitalism" to the extent that innovations are introduced by giant corporations which do not act under the compulsion of competitive pressures but in accordance with careful profit maximizing calculations. In this case, no one, not even the innovating firms themselves, can control the rate at which new technologies are generally adopted. On the other hand giant corporations will be guided not by the profitability of the new method considered in isolation, but by the net effect of the investment on the overall profitability of the firm. This means that there may be a slower rate of introduction of innovations than under competition, particularly if corporations tend to use a long-time horizon for investment planning. Thus, under oligopoly capitalism the rate at which new techniques supersede old techniques may be slower than traditional economic theory would suggest.

Summary

The need exists to integrate micro and macro economics. This can be done if we organize the principles of economics course around a study of the U.S. economy, recognizing it as a form of advanced industrial capitalism. Students should study the nature of important markets in the U.S. and the effects of this industry structure on resource allocation. At the macro level they study the growth of the economy as a whole--the study of the aggregate movements in income, output and prices. In this study, the effects of market structure must be considered on the size and the composition of GNP.

There is a great need for coordination of the parts--of micro and macro economics. In much of today's corporate economy, both prices and wage rates are administered. Costs, prices, and demand are, for all practical purposes, controlled. The myth that this is not a planned economy must be replaced with the realization that planning is necessary for stability and predictability--which are necessary for the workings of industrial capitalism. It should no longer be taken for granted that there is a sharp line of demarcation between the public and private spheres of the economy. There is need for coordination between business and government; in fact, one serves and compliments the other. This should be the central theme of economic analysis.

IV SUGGESTIONS FOR REORGANIZING THE PRINCIPLES COURSE

General Nature of the Course

If our economy can be described as a form of capitalism, private ownership and operation of the means of production, then the student should study who owns, operates, and controls the means of production and the effects of these actions in promoting public welfare.

Corporations are the key institutions to be studied. Study should start with and focus on the facts and theories about the current structure, so that the student will understand the economy as it is now. In particular, macro and micro economic problems should be integrated.

tative Course Outline

Description of the United States Economy

A. Historical development from competitive capitalism to oligopolistic capitalism

B. Introduction to basic price theory, noting especially such things as differences between output and price decisions under competitive, oligopolistic and monopolistic conditions (where MC and MR curves intersect)

Analysis of Dominance of the Corporation in U.S. Society

A. Statistical description of industry organization and the dominance in production of large corporations

B. Influence of corporations in foreign policy-decision making

C. Dominance of corporations in formulating domestic government policy

   1. The increasing socialization of investment and guaranteeing of markets. Study why it is necessary for the government to follow stabilization and growth policies. Study how this affects societal values, etc. Here it can be seen that political and economic questions and problems cannot be separated. The theory, if it is to explain or predict behavior, should analyze behavior in the political economy.

Second Semester: Take up micro and macro political issues

A. Study income distribution and poverty

B. National stabilization and growth policy, national income analysis. A Study of the federal and large state budgets should be made here--not only studying their aggregates, but their composition by categories.

C. The tax structure

D. Accounting procedures for measuring profits

E. Coordination of input and output markets by the decision making unit--the large corporation

CONCLUDING REMARKS

I.

At the end of the year students were asked to make a final statement of
personal opinions and recommendations about the principles courses by
ring the following question:

> Given information on teaching practices, the student population,
> faculty and student attitudes, student critiques of course organ-
> ization and content; list your major recommendations for change
> in content, organization, and teaching strategies. For each give
> your rationale.

Three of these statements are reprinted below.

Pearce

The general purposes of the Economics IA-B course are, in my understand-
the following: 1) To give economics majors preparitory material for
er study in the field; 2) To give non-economics majors an overview of
subject of economics; 3) To attract undeclared majors to the field of
omics.

The current course is an attempt to do all three simultaneously and fails
ach. The solution must be to establish separate courses for majors and
majors.

Recommendation: Create Separate Introduction Courses for Majors and
ajors. Economics IA-B should be a course in preparation for further
in the field and should include the nature of scientific methodology in
omics (including the use of mathematics, statistics, and model-building),
practical application of these methods in an atmosphere as free as possi-
from specific economic value systems. If this atmosphere could be estab-
ed, it would prepare the student to wander the apparently inconsistant
through the diversity of economic minds that comprises the staff of the
rtment.

The course of study should be as tightly regimented as possible at the
rtment level, keeping in mind the diversity of the staff. One should be
to assume that the students upon completion of the IA-B course have been
ugh specified learning experiences and meet certain requirements in per-
ance capability. ore specific details in regard to department expecta-
of course material and student performance in the IA-B course would help
etach the course from the individual prejudices and specialties of the
f.

For non-economics majors and undecided students a seperate Introduction to Economics course should be set up. It should be an introduction to the nature of an reason for economic study, an overview of the history of economic thought and systems, and an impartial study of comparative economic systems; all as closely related to specific "real-world" situations as possible. This overview would give non-economics majors the outline of the broad field of economics they should have instead of a hard dose of miscellaneous economic theory and a small dose of general economics. This overview also would give the undecided student a general, and hopefully more interesting and informative, perspective of the field of Economics.

Rationale. The study on the student makeup of the present Economics 1A-B course indicates that any view of this course as attracting undecided students to the field is ridiculous, as the majority are upper-division non-economics majors. This problem arises from the fact that Economics 1A-B is not only not required in the general education program, but is not made to be an attractive alternate to any other social science. The following is an exerpt from the General Education requirements at San Jose State:

> SOCIAL SCIENCE
>
> 9 units, which must include American History, U.S. Constitution, and California Government. Requirements may be met by any of the plans listed:
>
> Plan 1: Humanities Program
>
> Plan 2: History 17A and B, or 8A & B plus Political Science 1
>
> Plan 3: History 170 (for upper division and Graduates only), Political Science 1, and Social Science elective from list below
>
> Plan 4: History 171A & B plus Social Science elective (for upper division & transfer students only) see below
>
> Additional Social Science Courses
>
> Economics 1A & B, 100
> Geography 1A & B, 121
> History 4A & B, 90A, 90B, 105, 149A & B, 162A & B
> Political Science 22, 150, 152
> Sociology 70, 150A & B
> Anthropology 1, 2

Assuming that an entering lower division student who is undecided about his major begins his investigation of areas of study by taking his general education course requirements, he is almost certain not to take an economics course.

In addition, if he is a declared major, but the possibility exists for interesting him in changing to Economics, this possibility is largely negated

General Education set-up, and other departmental course organizations. llowing is a list of all requirements for economics courses outside of jor and the teaching major and minor:

School of Applied Sciences and Arts	
Home Economics (occupational)	Econ IA required
Home Economics (spec. in Textiles & Clothing in Business)	Econ IB required
Industrial Arts (spec. in Ind. Design)	Econ IA or 100 required
Business and Industry	Econ IA-B required
Journalism	Econ IA-B required
Advertising	Econ IA required
I School of Business	
All majors in Business	Econ IA-B required
I School of Education	None required
V School of Engineering	
Industrial Technology (spec. in Business and Engineering)	Econ IB required
V School of Humanities and the Arts	
Geography	IA required, IB optional
History	IA-B required
Political Science	IA-B required
Sociology (spec. in Social Service)	IA-B required
I School of Natural Science and Mathematics	None required

This list shows the limited areas in which a student is required to be sed to Economics. In addition, since the student usually takes general ation courses and lower division courses in his major field before he s other supplementary required courses, he usually puts off Economics IA-B l his upper-division work when he can no longer change his major easily. seems to be substantiated by the study of the students taking Economics done by the Seminar.

The only way of rectifying this seemingly hopeless situation is to organ- a new non-economics major introductory course and attempt to place it as qual alternate to other general education options, and to attempt to sell o other departments as a lower-division requirement for majors.

Recommendation, Create Faculty Course Improvement Seminars. The teach- strategies are, from my understanding of the study on teaching attitudes practices, extremely varied. In addition the study also indicated dis- ancies between the stated objectives of the professors and their actual ods of instruction. Both of these variations can probably be explained in by the professors' lack-~~of~~ interest in and lack of education in the field education.

The first step in attempting to correct this problem would be the circulation of the studies done by this Seminar among the staff. An attempt then could be made to organize seminars of professors with the objective of stressing coordination in teaching methods and subject material for the IA-B course, and coordinated experimentation in new teaching methods, including programmed instruction.

I realize that there will exist staff resistance to any regimentation of the IA-B and proposed survey course, and to the introduction of more efficient and productive teaching methods; but until it is possible for a student to enroll in an Economics IA-B course with any professor and be assured of completing the course with a level of education and performance consistent with some prescribed objectives, the IA-B Program is in need of improvement.

The attitude of some professors, that they have to impose their views on the students in the IA-B classes, is detrimental to any student's further objective study in the field of Economics. The Economics IA-B course is an introduction to the field and should be treated as such and as objectively as possible.

Richard Wada

My major recommendation for altering the principles classes is to offer two classes, one class designed especially for non-majors and the other for majors, minors, and those wishing a more thorough knowledge of economics.

The class for majors, minors, etc., would basically be the same as that now being taught in the principles classes, probably with a greater emphasis on theory and economic tools of analysis.

The justification for this is that the economics department has an obligation to majors and minors in economics to teach certain "organizers" to enable the students to take upper division courses. This would, of course, entail a greater emphasis on theory and tools. I believe by restricting this class to majors, minors, etc., learning would be self-motivated and the class would be able to progress in a more rapid and involved fashion.

One fact, approximately 2% of the students currently enrolled in the principles' classes are economics majors, would indicate that this class would not be justified; however, if we extend this class as a minor requirement, and also, if we do not completely restrict enrollment to majors and minors only, but to those interested, I feel, that participation would be sufficient.

The non-major class would be structured around current social-economic problems, more specifically dealing with the principles of economic policy. As an approximation of how I would like this class structured I would like to present Kenneth Boulding's Table of Contents from Principles of Economic Policy:

What is economic policy?
Economic progress
Economic stability
Economic justice
Economic freedom
Means, ends, and the conflict of objectives
The principles of action applied to government
Fiscal policy
Monetary and financial policy
Income maintenance policy
Commercial policy and international economics
Government and business enterprise
Agricultural policy
Labor policy
The economics of war and peace
The world perspective: communism and development
To Utopia--and beyond

strength of this kind of structure is that while we are not de-
from the basic principles of economics, we structure the class
ubject matter that involves the student. (That is, the student
iminary test showings) shows interest and the relavancy of topics
y and current problems.)

justification: Eighty-five percent (85%) of those taking economics
because it is required and therefore cannot be assumed to be motivated
the sometimes over-technical tools of analysis and the oftentimes
stracted theory. This structure, I feel, will make the subject mater-
palatable to the student.

the student takes the non-major course and subsequently wishes to
economics, this problem could be circumvented easily by making
l and 102 a prerequisite for many of the upper division classes.

Scott

tionale, a Statement of Present Conditions. It has been suggested
e present courses are not relevant in the opinion of the current
population. The reasons for this may be one of the following:
omics, as it is now taught, is designed for and understood by only
cially initiated; b) the student cannot see how knowledge and cogni-
kills being developed can be applied in the real world. If this is
then the present content of the course seems to be contributing to the
uation of economic illiteracy in the nation, because students refrain
aking additional courses in economics beyond the required courses.

The present organization of the course under the general framework of positive economics does not appear responsive to the needs of the current student population. Students today are questioning not only authority in general, but some question the basic tenents of our system of economic organization as well. Positive economics alone does not supply the rational explanation of our system the students are looking for. The academic world must respond by attempting to supply more of the explanations of the system from a normative viewpoint.

There appears to be some resistance to a movement away from the conventional lecture-textbook teaching strategy and towards innovation. Studies this semester revealed how few instructors were familiar with innovations in education (e.g. programmed instruction).

Recommendations:

(1) It appears that economics can be made more relevant to the student by:
   (a) removing much of the esoteric material from the course;
   (b) combining normative and positive economics and using it to identify and explain the major economic problems and issues of the system.

(2) From an examination of problems and issues, interest and awareness might be stimulated. Thus student interest in attempting to solve the problem may motivate them to learn additional cognitive skills.

(3) Center the course on discussion of the general goals of the society and how they may be in conflict:
   (a) our present position both domestically and internationally;
   (b) alternatives to the values and goals chosen by this society and other societies;
   (c) our ability to resolve conflict within the constraints of our economic and political system.

(4) There should be greater autonomy for the faculty to innovate where possible. This is a period of rapid change in education and instructors should be kept abreast of these changes.

2. The Last Word

by Suzanne Wiggins

The students have spoken and I do not want to dull the edge of their ds. I add this final page only to suggest the kinds of work which the rtment might engage in at this point.

Although the students have made an impressive contribution towards a sion of the principles courses by providing essential data and making resting suggestions about content and course orientation, outside of the r by Thurlow Scott and scattered comments in other papers, there is le discussion of teaching strategy. Also, the students do not get very rete in their recommendations. They do not say what specific economic ry, data, economic reasoning and research skills principles students ld learn. Furthermore, they do not say how much students should know or well they should be able to perform. This is only right; there are ques- s which department members should decide. The students seem to be agreed there should be specific, stated objectives laid out by the department, these objectives be decided on the basis of what students need to know how much they can reasonably be expected to learn. Since the amount ents can learn is tied to the methods used to help them learn, if the rtment is to try to set up course behavioral objectives, even fairly d ones, then we will also have to consider questions of teaching strategy.

These questions cannot be answered at once, but they can grow out of a years of experimentation and exploration of alternatives. Given even the nar students' luke warm interest in economic theory, particularly price ry, this might be an interesting place to begin the inquiry. Why should e theory be part of the course? Why should any theory be part of the se? Should students memorize the lectures or text proofs or should they n something basic about model building and theory construction? What is c?